

FILE NOTATIONS

Entered in FD File
 Location Map Mined
 Card Indexed
 ✓
 ✓
 ✓

Checked by Chief
 Approval Letter
 Disapproval Letter
 Pub
 3.2.6-74

COMPLETION DATA:

Date Well Completed 8-23-74

Location Inspected

OW..... WW..... TA.....

Bond released

OW..... OS..... PA.....

State or Fee Land

LOGS FILED

Driller's Log.....
 ✓

Electric Log (P).....
 ✓

E..... CR-M..... Micro.....

RHC Cards W..... L..... S.....

CBLog..... C..... C.....

5-13-74 Application Re-Filed, Change
 of Postage Location



1110 DENVER CLUB BUILDING
518 SEVENTEENTH STREET
DENVER, COLORADO 80202
TELEPHONE 303-573-5665

March 21, 1974

Mr. Cleon B. Feight
Division of Oil & Gas Conservation
1588 West North Temple
Salt Lake City, Utah 84116


Re: Anschutz #1 State 913
NE SW Sec. 9-16S-22E
Grand County, Utah
Utah State Lease: 21913

Dear Mr. Feight:

Transmitted herewith in triplicate is the APPLICATION FOR PERMIT TO DRILL (Form DOGC-1a) for the captioned well. The surveyor plans to stake this well within a few days and will deliver the plats directly to your office.

Yours very truly,

THE ANSCHUTZ CORPORATION


W. W. Wakefield
Vice President

WWW:kcw
Enclosure

cc Mr. Donald Prince
Division of State Lands
State Capitol Bldg.
Salt Lake City, Utah 84110

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS

Utah State Lease 21913

5. Lease Designation and Serial No.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work

DRILL ☒DEEPEN ☐PLUG BACK ☐

b. Type of Well

Oil
Well ☒Gas
Well ☐Other ☐Single
Zone ☐Multiple
Zone ☐

2. Name of Operator

The Anschutz Corporation

3. Address of Operator

1110 Denver Club Bldg., Denver, Co. 80202

4. Location of Well (Report location clearly and in accordance with any State requirements.*)

At surface

Approx NE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 9(*)

At proposed prod. zone

6. If Indian, Allottee or Tribe Name

7. Unit Agreement Name

8. Farm or Lease Name

State 913

9. Well No.

1

10. Field and Pool, or Wildcat

Unnamed

11. Sec., T., R., M., or Blk.
and Survey or Area

9-16S-22E

14. Distance in miles and direction from nearest town or post office*

Approx 25 miles northwest of Harley Dome, Utah

12. County or Parrish

Grand

13. State

Utah

15. Distance from proposed*
location to nearest
property or lease line, ft.
(Also to nearest drlg. line, if any)

(*)

16. No. of acres in lease

3200

17. No. of acres assigned
to this well

18. Distance from proposed location*
to nearest well, drilling, completed,
or applied for, on this lease, ft.

19. Proposed depth

10,200'

20. Rotary or cable tools

Rotary

21. Elevations (Show whether DF, RT, GR, etc.) (*)

22. Approx. date work will start*

4-5-74

23.

PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
17 1/2"	13 3/8"	48	90'	90 sx (circulated)
12 1/4"	9 5/8"	32	1000'	550 sx
8 3/4"	7"	20	6000'	200 sx
6 1/4"	4 1/2"	11-13	10200'	200 sx

(*) Survey plats to be delivered to your office within a few days.

We propose to drill this well to an approximate total depth of 10,200' in the Morrison formation. Electric logs will be run to total depth; no cores are planned. Conventional drill stem tests will be run as warranted by evaluation of logs and samples. After setting intermediate casing @ approximately 6000' in the top of the Mancos, hole will be drilled with air and mist to total depth. If production is encountered, casing will be set through the pay section and selectively perforated; fracing or acidizing may be necessary to stimulate production. Drilling bond is on file.

Need BOP + survey data

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

Signed

W. W. Wakefield

Title

Vice President

Date 3-22-74

(This space for Federal or State office use)

Permit No.

B-019-30193

Approval Date

Approved by

Title

Date

Conditions of approval, if any:

March 26, 1974

Anschutz Corporation
1110 Denver Club Building
Denver, Colorado 80202

Re: Well No. Anschutz State 913- #1
Sec. 9, T. 16 S, R. 22 E,
Grand County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to well is hereby granted in accordance with the General Rules and Regulations and Rules of Practice and Procedure. Said approval is, however, conditional upon the following:

- (a) Written notification as to the type of blowout prevention equipment to be installed, as well as the subsequent testing procedures to be followed.
- (b) Survey plat of the proposed location must be forwarded this office as soon as possible.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

PAUL W. BURCHELL - Chief Petroleum Engineer
HOME: 277-2890
OFFICE: 328-5771

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling. Your cooperation relative to the above.

March 26, 1974
Anschutz Corporati
Page Two

The API number assigned to this well is 43-019-30193.

Very truly yours,

DIVISION OF OIL AND GAS CONSERVATION

CLEON B. FEIGHT
DIRECTOR

CBF:sd

cc: Division of State Lands

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS CONSERVATION

1588 WEST NORTH TEMPLE
SALT LAKE CITY, UTAH 84116
328-5771

State Lease No. 913-No. 1-A
Federal Lease No. _____
Indian Lease No. _____
Fee & Pat. _____

REPORT OF OPERATIONS AND WELL STATUS REPORT

STATE UTAH COUNTY GRAND FIELD/LEASE STATE 913 NO. 1-A
Meadow Creek Prospect

The following is a correct report of operations and production (including drilling and producing wells) for the month of:
MAY, 1974.

Agent's Address 1110 Denver Club Bldg.
518 17th Street
Denver, Colo. 80202
Phone No. _____

Company ANSCHUTZ CORPORATION
Signed *Rich P. McConnell*
Title Production Clerk

Sec. and 1/4 of 1/4	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
										Drilling. Spudded 5-21-74.

GAS (MCF)	0
Sold	0
Wanted	0
Off Lease	0

OIL or CONDENSATE: (To be reported in Barrels)

On hand at beginning of month	0
Produced during month	0
Sold during month	0
Unavoidably lost	0
Reason:	
On hand at end of month	

SHUT-IN PRODUING WELLS: This report must be filed on and before the sixteenth day of the succeeding month following the shut-in for each well. Where a well is temporarily shut-in, a negative report must be filed. ***THIS REPORT MUST BE FILED***



1110 DENVER CLUB BUILDING
518 SEVENTEENTH STREET
DENVER, COLORADO 80202
TELEPHONE 303-573-5665

May 10, 1974

Mr. Cleon B. Feight
Division of Oil & Gas Conservation
1588 West North Temple
Salt Lake City, Utah 84116

Re: Anschutz #1-A State 913
C SE $\frac{1}{4}$ Section 9-16S-22E
Grand County, Utah
Utah State Lease 21913

Dear Mr. Feight:


Transmitted herewith in triplicate is the APPLICATION FOR PERMIT TO DRILL (Form DOGC-1a) for the captioned well. The location has been staked at the indicated location by Mr. Don Quigley, and he will deliver the survey plats to your office the early part of the coming week.

✓ A permit has been issued for our #1 State 913 located in the NW SW. That well will not be drilled, and you may close the file on that application.

✓ For topographical and access reasons, we request an exception to Rule C-3 and permission to drill this well at a location not in the center of a legal subdivision. ✓ The captioned Anschutz state lease covers all lands in the SE $\frac{1}{4}$ of Section 9.

Yours very truly,

THE ANSCHUTZ CORPORATION


W. W. Wakefield
Vice President

WWW:kcw
Enclosure

cc Mr. Donald Prince
Division of State Lands
105 Capitol Bldg.
Salt Lake City, Utah

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS

5. Lease Designation and Serial No.

Utah State Ls 21913

6. If Indian, Allottee or Tribe Name

7. Unit Agreement Name

8. Farm or Lease Name

State 913

9. Well No.

1-A

10. Field and Pool, or Wildcat

unnamed

11. Sec., T., R., M., or Blk.
and Survey or Area

9-16S-22E

12. County or Parrish 13. State

Grand

Utah

1a. Type of Work

DRILL ☒DEEPEN ☐PLUG BACK ☐

b. Type of Well

Oil
Well ☒Gas
Well ☐

Other

Single
Zone ☐Multiple
Zone ☐

2. Name of Operator

The Anschutz Corporation

3. Address of Operator

1110 Denver Club Bldg., Denver, Co. 80202

4. Location of Well (Report location clearly and in accordance with any State requirements.)*

At surface

Center of SE $\frac{1}{4}$ Sec. 9

1320' SNL

At proposed prod. zone

1320' WEL

14. Distance in miles and direction from nearest town or post office*

Approx. 25 miles northwest of Harley Dome, Utah

15. Distance from proposed*

location to nearest
property or lease line, ft.
(Also to nearest drlg. line, if any)

1320'

16. No. of acres in lease

3200

17. No. of acres assigned
to this well

18. Distance from proposed location*
to nearest well, drilling, completed,
or applied for, on this lease, ft.

19. Proposed depth

10,200'

20. Rotary or cable tools

rotary

21. Elevations (Show whether DF, RT, GR, etc.)

7435 KB 7424 GL

22. Approx. date work will start*

5-16-74

23.

PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
17 1/2"	13 3/8"	48	90'	90 sx (circled)
12 1/4"	9 5/8"	32	1000'	550 sx
8 3/4"	7"	20	6000'	200 sx
6 1/4"	4 1/2"	11-13	10200'	200 sx

(*) Survey plats to be delivered to your office within a few days.

We propose to drill this well to an approximate total depth of 10,200' in the Morrison formation. Electric logs will be run to total depth; no cores are planned. Conventional drill stem tests will be run as warranted by evaluation of logs and samples. After setting intermediate casing @ approximately 6000' in the top of the Mancos, hole will be drilled with air and mist to total depth. If production is encountered, casing will be set through the pay section and selectively perforated; fracing or acidizing may be necessary to stimulate production. Drilling bond is on file.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

Signed W. W. WakefieldTitle Vice PresidentDate 5-10-74

(This space for Federal or State office use)

Permit No. AB1091304

Approval Date

Approved by

Title

Date

Conditions of approval, if any:

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work

DRILL ☒DEEPEN ☐PLUG BACK ☐

b. Type of Well

Oil Well ☒Gas Well ☐Other ☐Single Zone ☐Multiple Zone ☐

2. Name of Operator

The Anschutz Corporation

3. Address of Operator

1110 Denver Club Bldg., Denver, Co. 80202

4. Location of Well (Report location clearly and in accordance with any State requirements.*)

At surface

Center of SE $\frac{1}{4}$ Sec. 9

1320' SNL

At proposed prod. zone

1320' WEL

14. Distance in miles and direction from nearest town or post office*

Approx. 25 miles northwest of Harley Dome, Utah

15. Distance from proposed*

location to nearest property or lease line, ft.
(Also to nearest dely. line, if any)

1320'

16. No. of acres in lease

3200

17. No. of acres assigned to this well

18. Distance from proposed location* to nearest well, drilling, completed, or applied for, on this lease, ft.

19. Proposed depth

10,200'

20. Rotary or cable tools

rotary

21. Elevations (Show whether DF, RT, GR, etc.)

7435 KB 7424 GL

22. Approx. date work will start*

5-16-74

23. PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
17 1/2"	13 3/8"	48	90'	90 sx (circled)
12 1/4"	9 5/8"	32	1000'	550 sx
8 3/4"	7"	20	6000'	200 sx
6 1/4"	4 1/2"	11-13	10200'	200 sx

(*) Survey plats to be delivered to your office within a few days.

We propose to drill this well to an approximate total depth of 10,200' in the Morrison formation. Electric logs will be run to total depth; no cores are planned. Conventional drill stem tests will be run as warranted by evaluation of logs and samples. After setting intermediate casing @ approximately 6000' in the top of the Mancos, hole will be drilled with air and mist to total depth. If production is encountered, casing will be set through the pay section and selectively perforated; fracing or acidizing may be necessary to stimulate production. Drilling bond is on file.

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24.

Signed

W. W. Wakefield

Title

Vice President

Date

5-10-74

(This space for Federal or State office use)

Permit No.

Approval Date

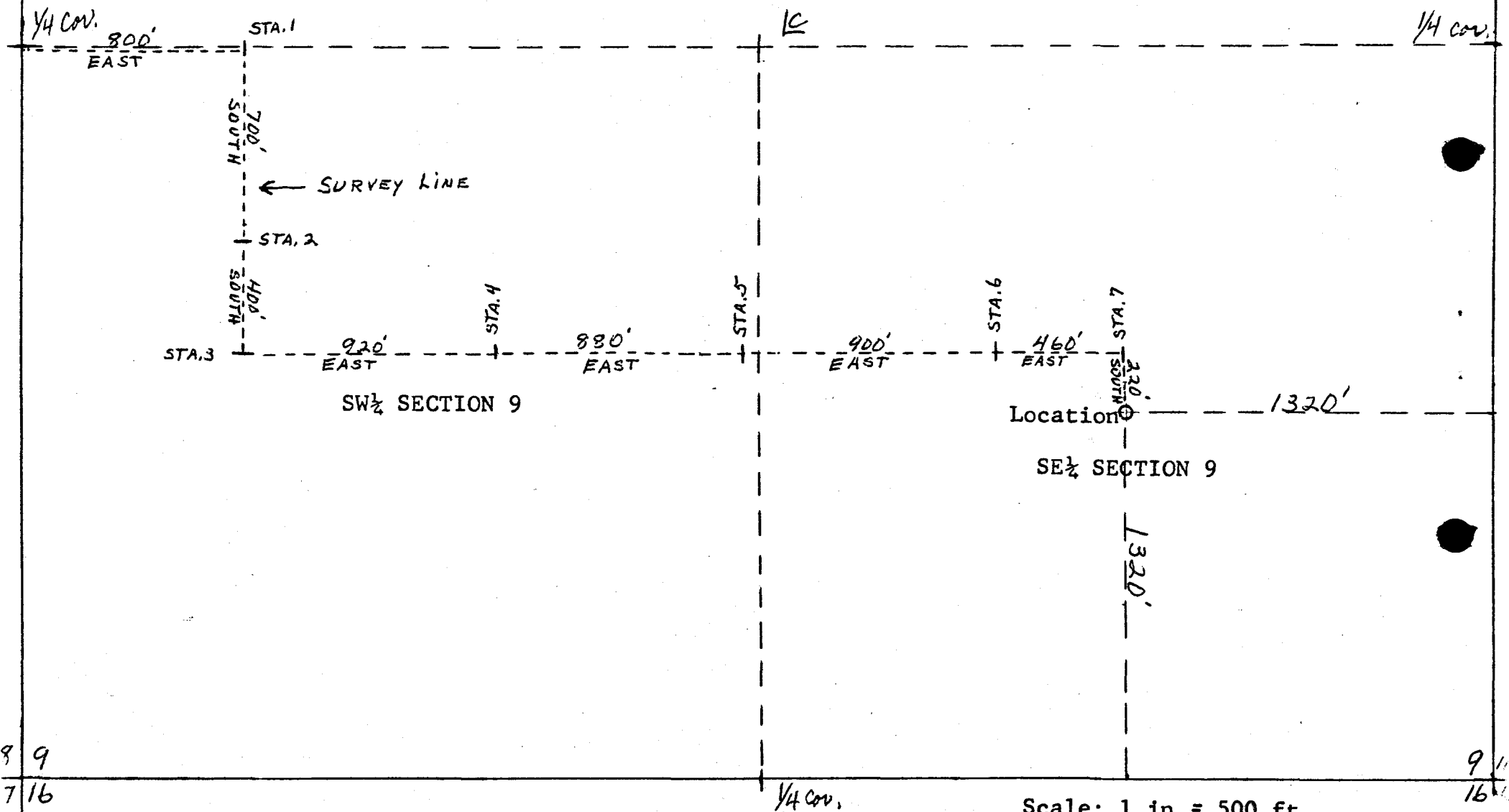
Approved by

Title

Date

Conditions of approval, if any:

LOCATION PLAT FOR
 ANSCHUTZ #1-A STATE 913 WELL
 C.SE.SEC.9-16S-22E.
 (1320' fr. S-line & 1320' fr. E-line)
 Elev.: 7424' grd.

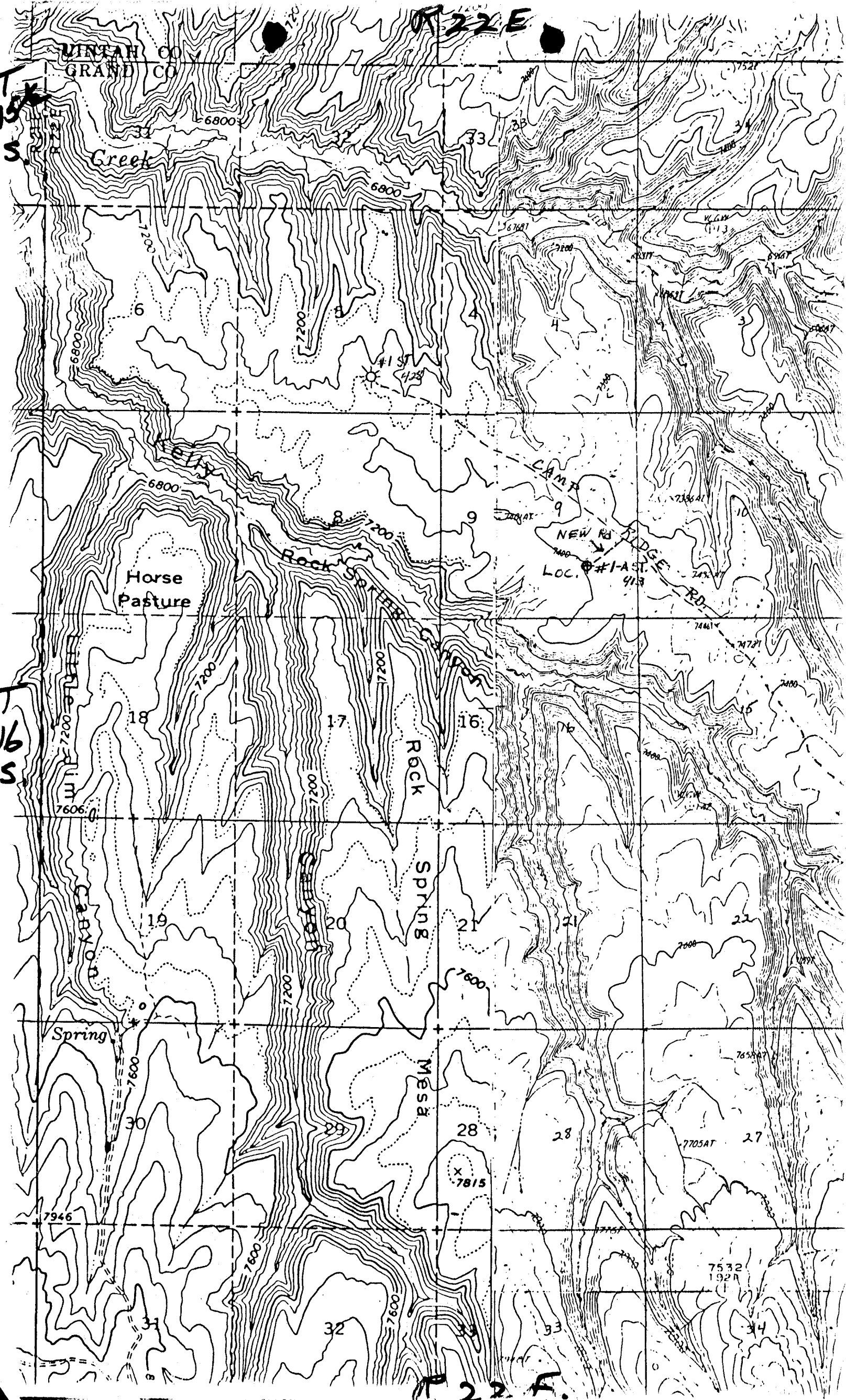


Scale: 1 in. = 500 ft.

Date: May 10, 1974

Surveyed by: W. Don Quigley

PLAT NO. 1



May 13, 1974

The Anschutz Corporation
1110 Denver Club Building
Denver, Colorado 80202

Re: Well No. State 913 - #1-A
Sec. 9, T. 16 S, R. 22 E,
Grand County, Utah

Gentlemen:

Approval to drill the above referred to well is hereby granted in accordance with Rule C-3(c), of the General Rules and Regulations and Rules of Practice and Procedure. However, said approval is conditional upon a surveyor's plat of the proposed location being forwarded this office at your earliest convenience.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

PAUL W. BURCHELL - Chief Petroleum Engineer
HOME: 277-2890
OFFICE: 328-5771

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling. Your cooperation relative to the above will be greatly appreciated.

The API number assigned to this well is 43-019-~~32201~~. *WV 32201*

Very truly yours,

DIVISION OF OIL & GAS CONSERVATION

CLEON B. FEIGHT
DIRECTOR

CBF:sd
cc: Division of State Lands



1110 DENVER CLUB BUILDING
518 SEVENTEENTH STREET
DENVER, COLORADO 80202
TELEPHONE 303-573-5665

May 24, 1974

Mr. Cleon B. Feight
Division of Oil & Gas Conservation
1588 West North Temple
Salt Lake City, Utah 84110

Mr. Donald Prince
Division of State Lands
State Capitol Building
Salt Lake City, Utah 84110

Re: Anschutz #1-A State 913
C SE $\frac{1}{4}$ Section 9-16S-22E
Grand County, Utah

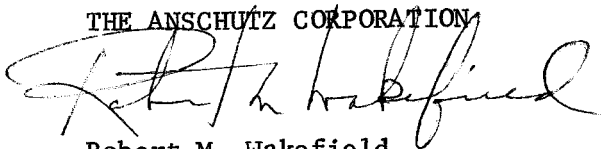
Gentlemen:

The captioned well was spudded 5-21-74. Surface casing was set (9 5/8") at 307' KB w/285 sx cement, good returns.

We expect to reach TD on or about June 19.

Yours very truly,

THE ANSCHUTZ CORPORATION


Robert M. Wakefield
Geologist

RMW:kcw

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS CONSERVATION

1588 WEST NORTH TEMPLE
SALT LAKE CITY, UTAH 84116
328-5771

State Lease No. STATE 913-No. 1-A
Federal Lease No.
Indian Lease No.
Fee & Pat.

REPORT OF OPERATIONS AND WELL STATUS REPORT

STATE UTAH COUNTY GRAND FIELD/LEASE STATE 913 NO. 1-A
Meadow Creek Prospect

The following is a correct report of operations and production (including drilling and producing wells) for the month of:
JUNE, 19 74

Agent's Address 1110 Denver Club Bldg.
518 17th Street
Denver, Colo. 80202
Phone No.
Company THE ANSCHUTZ CORPORATION
Signed Vicki P. McConnell
Title Production Clerk

Ac. and or 1/4	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
										Drilling @ 9852, 6-30-74

GAS (MCF)
Produced _____ 0
Sold _____ 0
Off Lease _____ 0

OIL or CONDENSATE: (To be reported in Barrels)
On hand at beginning of month _____ 0
Produced during month _____ 0
Sold during month _____ 0
Unavoidably lost _____ 0
Reason: _____
On hand at end of month _____ 0

LYNES UNITED SERVICES LTD.

TEST DATA				GENERAL INFORMATION			
Test No.	One	Lynes Test	One	Company	The Anschutz Corp.		
Formation	Castle Gate #1	T.D.	5926 Ft.	Address	1110 Denver Club Building		
Interval Tested	5611	Ft. to	5631		Denver, Colo. 80202		
Interval Tested	20	Ft.	Net Pay Tested 20				
Type of Test	Inflate Straddle			Well Name	Anschutz State <u>43-019-30193</u>		
Cushion		Amount	Ft.	Well Number	1-A 913 <u>165-228-9</u>		
Started in Hole at	11:30	Hrs.	Tool Open at 17:00	K.B. Elevation	7436	Sub-Sea Elevation	7424
Pre-Flow	5	Mins.	Initial Shut-in 30	Area	Grand County	Province	Utah
2nd Flow		Mins.	Second Shut-in	Company Rep.	W. Don Quigley		
Final Flow	45	Mins.	Final Shut-in 45	Tester	James Holmes		
Remarks:				Contractor	Pease	Rig No.	5
Blow:	Very weak blow on preflow 1/8" water second flow open with very weak bubble and died.			Ticket No.	72-571	Date	June 14/74
				Service Reports To:	9 - distribution list		
GAS BLOW MEASUREMENTS				MUD AND HOLE DATA			
Measured with No gas				Mud Type	Gel Chem resist 2.0 @ 70°		
Time	Surface Choke	Reading Inches	Cubic Feet/Day	Weight	9	Viscosity	43
				Water Loss	4.6		
				Filter Cake	2/32	Bottom Hole Temperature	125°
				Drill Pipe Size	4 1/2	Weight	16.60
				Drill Collars	6"-5 5/8	I.D.	2.25
				Feet Run	573		
				Main Hole or Casing Size	8 3/4		
				Rathole or Liner Size	No. of Feet		
				Bottom Hole Choke Size	1		
				Surface Choke Size			
				Packer Rubber Size	7 7/8"		
				REMARKS			
				Sampler and recovery split between test #1&2 by Company man going by amount of blow.			
RECOVERY For tests 1 & 2				Shut-in pressures suggest low permeability within the interval tested.			
TOTAL FLUID RECOVERED 958 Ft. Consisting of:				Sampler recovery 65# P.S.I. 1000 cc gas drilling mud.			
408 Ft. of Gas drilling mud							
100 Ft. of Vapor gas in D.P.							
Ft. of							
Ft. of							
Test was/was not Reverse Circulated Was not				This was the first of two tests run on the same trip in the hole.			
Oil Recovery A.P.I. Water Specific Gravity							
Salinity resist 2.2 @ 75°							

PRESSURE READINGS

	Inside <u>X</u> Outside	Inside <u>X</u> Outside	Inside <u>X</u> Outside	Inside <u>X</u> Outside
Recorder No.	5155	7097	6081	
Capacity	5000	4000	72°-311°	
Depth	5581	5621	5621	
NUMBER KEY:				
1 - INITIAL HYDROSTATIC	2698	2697	118	
2 - PRE-FLOW	43	92		
3 - INITIAL SHUT-IN	1425	1425		
4a - 2nd INITIAL FLOW				
4b - 2nd FINAL FLOW				
4c - 2nd SHUT-IN				
5 - 3rd INITIAL FLOW	50	92		
6 - FINAL FLOW	46	66		
7 - FINAL SHUT-IN	275	266		
8 - FINAL HYDROSTATIC	2594	2568		

The Anschutz Corp. Anschutz State 1-A 913 One June 14/74 Date of Test

Company	Well Name and Description	Test No.	DATE
The Anschutz Corp.	Anschutz State 1-A 913	TWO	JUNE 12, 1937

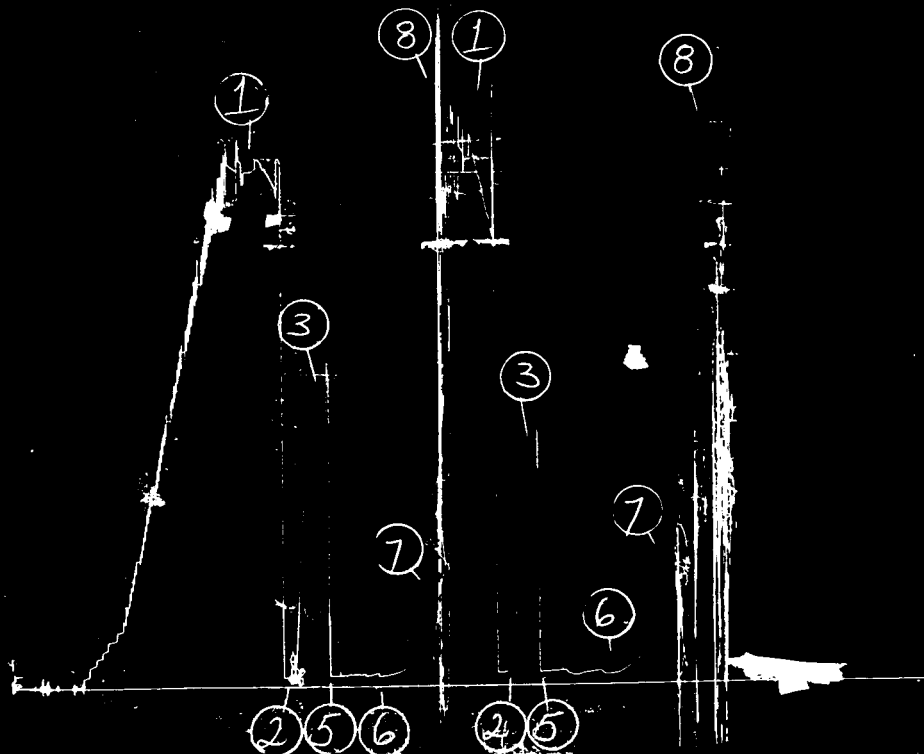
Company	Well Name and Description	Test No.
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125

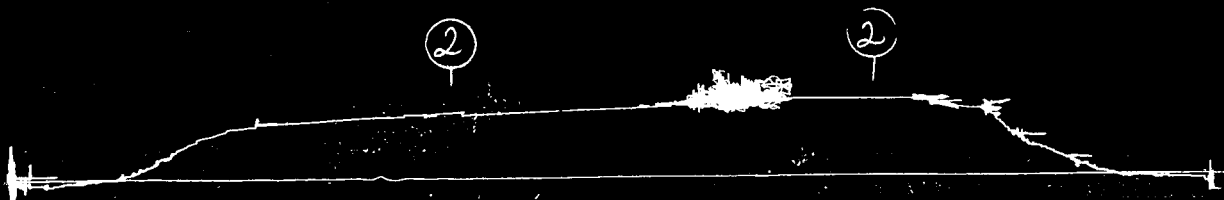
ANSCHUTZ STATE

1A - 913

5155-1+2

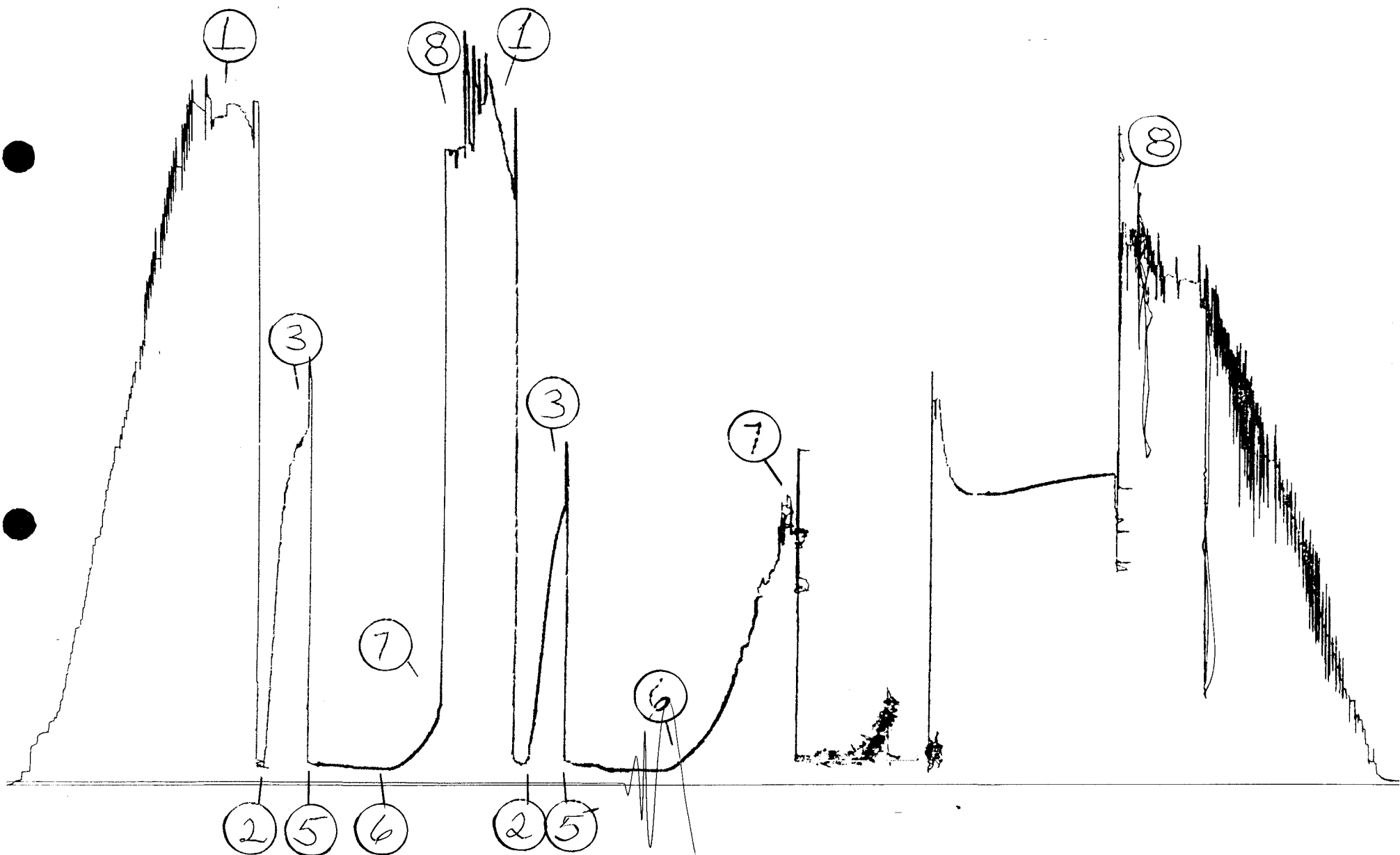


6081-1+2 TEMP.



ANSCHUTZ STATE 1A-913

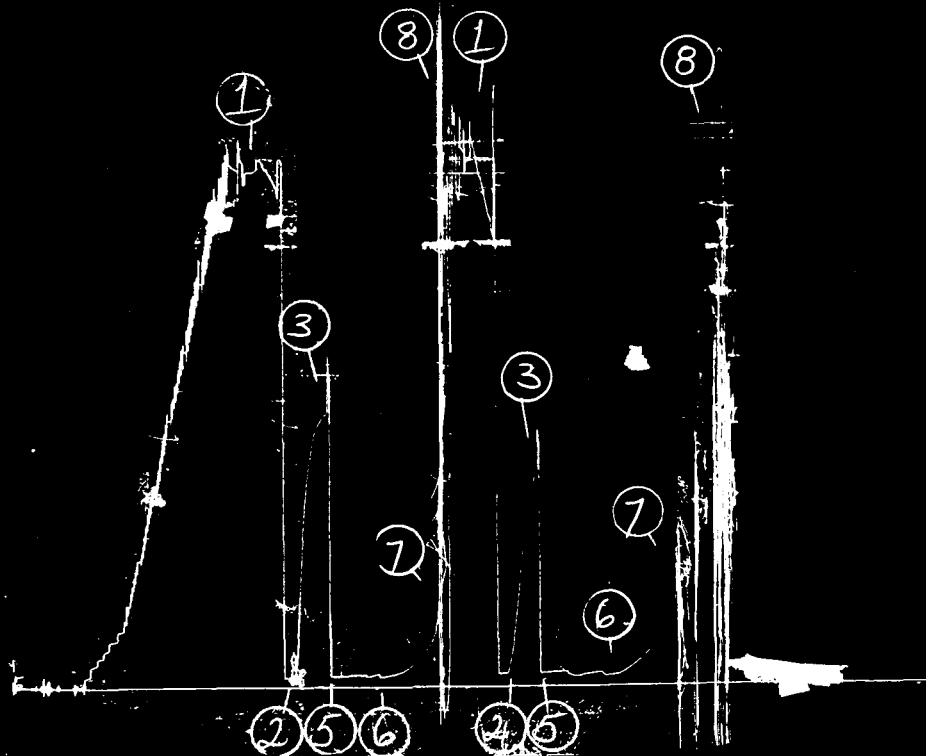
7097-1+2



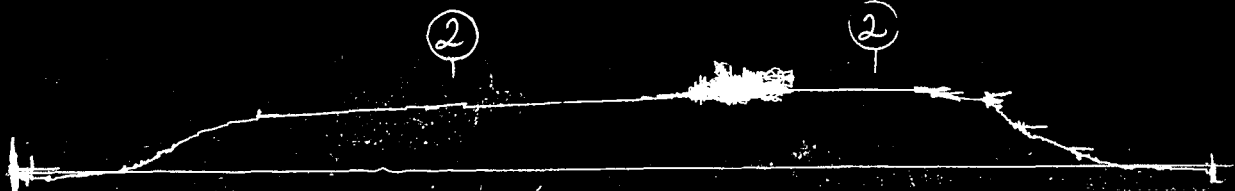
ANSCHUTZ STATE

1A - 913

5155-1+2

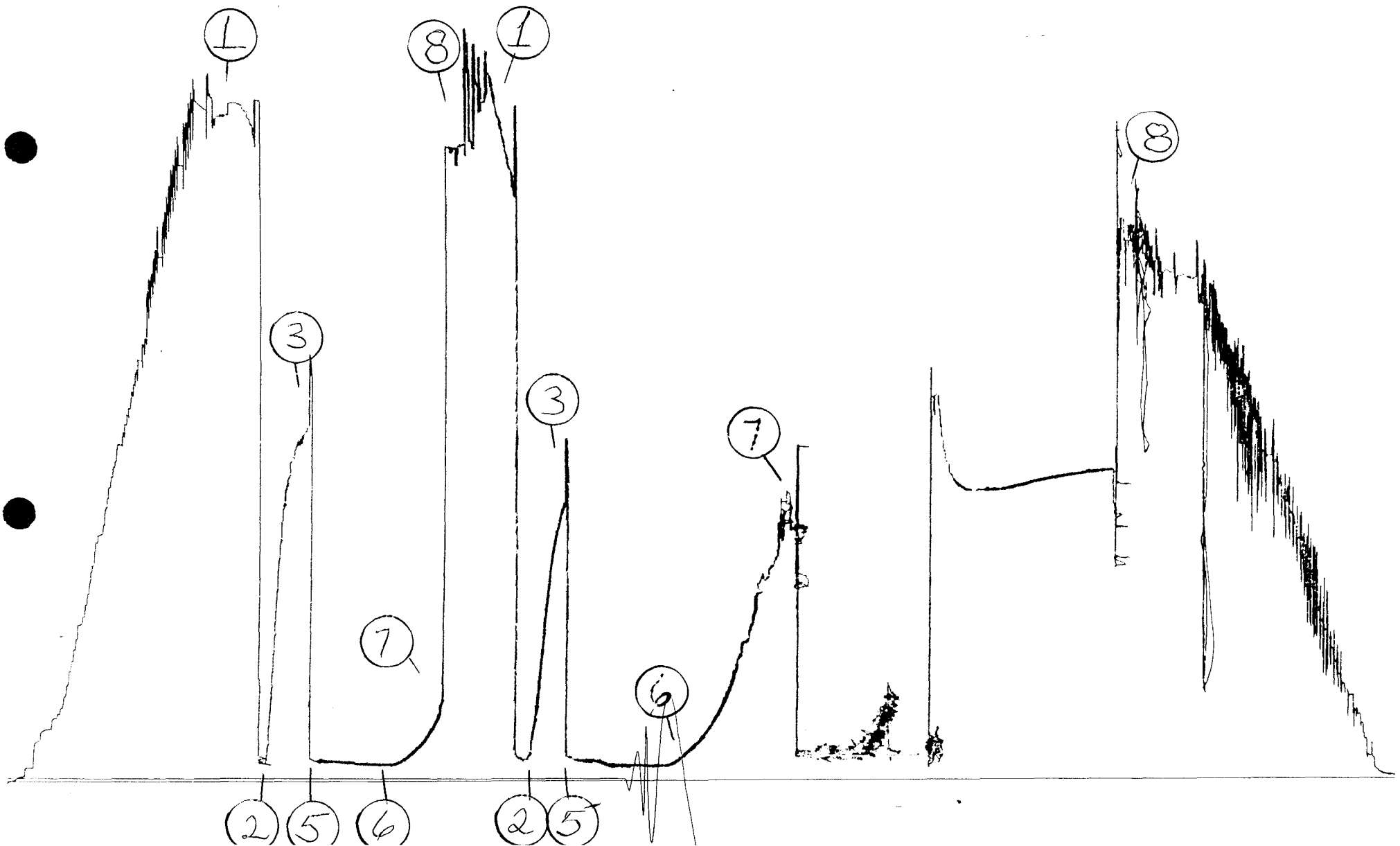


6081-1+2 TEMP.



ANSCHUTZ STATE 1A-913

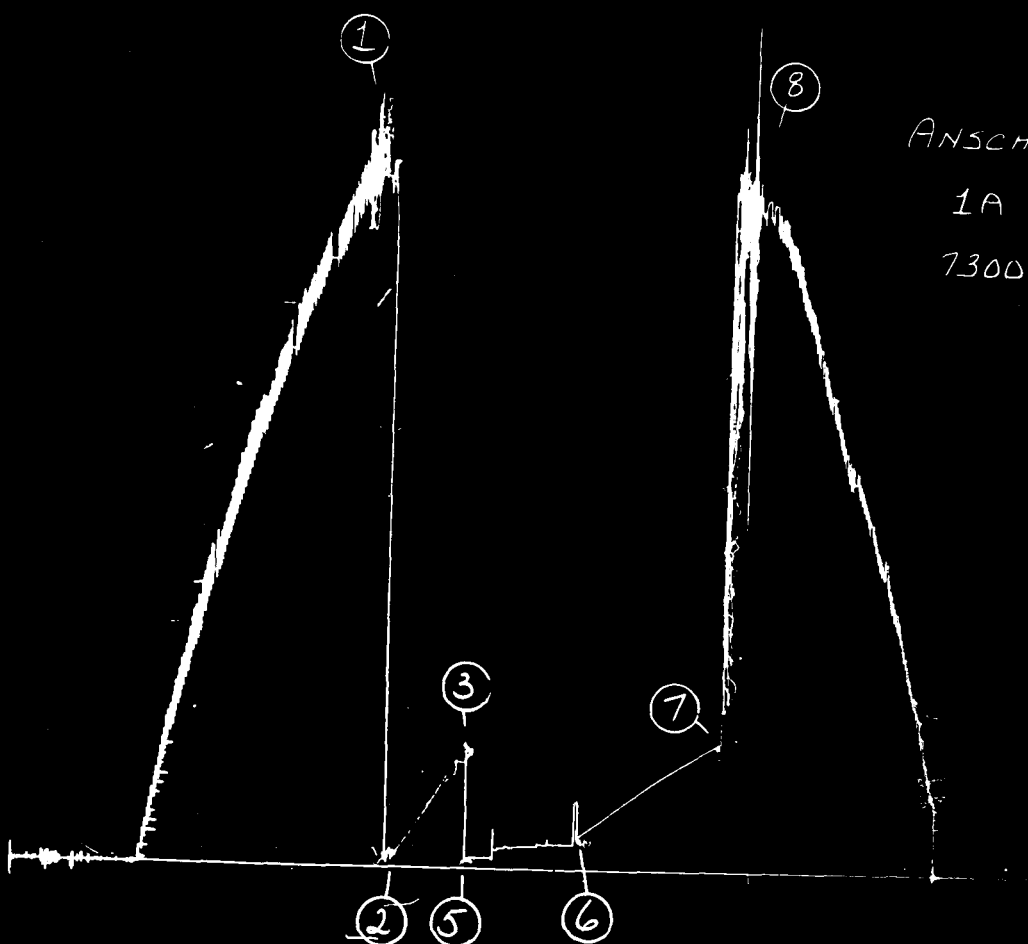
7097-1+2



LYNES UNITED SERVICES LTD.

TEST DATA				GENERAL INFORMATION			
Test No. <u>Three</u>		Lynes Test <u>Three</u>		Company <u>Anschutz State</u>			
Formation <u>Morrison</u>		T.D. <u>9852</u>		Address <u>1110 Denver Club Building</u>			
Interval Tested <u>9812</u>		Ft. to <u>9852</u>		Denver, Colorado			
Interval Tested <u>40</u>		Ft. Net Pay Tested <u>12</u>					
Type of Test <u>Conventional</u>							
Cushion		Amount		Well Name <u>Anschutz State</u>			
Started in Hole at <u>11:45</u>		Hrs. Tool Open at <u>3:27</u>		Well Number <u>1A - 913</u>			
Pre-Flow <u>3</u>		Mins. Initial Shut-in <u>45</u>		K.B. Elevation <u>7435</u> Sub-Sea Elevation <u>7424</u>			
2nd Flow		Mins. Second Shut-in		Area <u>Sec 9-165-22E</u> Province <u>Utah</u>			
Final Flow <u>90</u>		Mins. Final Shut-in <u>90</u>		Company Rep. <u>Forest Harrell</u>			
Remarks:				Tester <u>Bob Cooper</u>			
				Contractor <u>Pease</u> Rig No.			
Blow: <u>Weak blow on initial, strong blow remaining on final, started dying in 65 mins.</u>				Ticket No. Date <u>June 30/74</u>			
				Service Reports To:			
				<u>6 - distribution list</u>			
GAS BLOW MEASUREMENTS							
Measured with <u>No gas to surface</u>				MUD AND HOLE DATA			
				Mud Type <u>Gel and Water</u>			
Time				Weight <u>8.8</u> Viscosity <u>54</u> Water Loss <u>5.8</u>			
Surface Choke				Filter Cake <u>2/32</u> Bottom Hole Temperature <u>260°</u>			
Reading Inches				Drill Pipe Size <u>3 1/2</u> Weight <u>13.30</u>			
Cubic Feet/Day				Drill Collars <u>5"</u> I.D. <u>2"</u> Feet 'Run <u>450</u>			
				Main Hole or Casing Size <u>6 1/8 drilling</u>			
				Rathole or Liner Size <u>7"</u> No. of Feet <u>5926</u>			
				Bottom Hole Choke Size <u>5/8"</u>			
				Surface Choke Size <u>1/2" - 5/8"</u>			
				Packer Rubber Size <u>5 3/8"</u>			
				REMARKS			
				<u>Shut-in pressures suggest very low permeability within the interval tested.</u>			
				<u>Pit Res. 1.4 @ 70°</u>			
				<u>4000 ppm chlorides</u>			
				<u>Middle sample 1.4 @ 75°</u>			
				<u>4000 ppm chlorides.</u>			
RECOVERY							
TOTAL FLUID RECOVERED <u>330</u>				Ft. Consisting of:			
<u>330</u> Ft. of <u>Mud - slightly gas cut</u>							
<u>3800</u> Ft. of <u>Gas in drill pipe.</u>							
Test was/was not Reverse Circulated							
Oil Recovery A.P.I.				Water Specific Gravity			
Salinity							
PRESSURE READINGS							
Inside <u>X</u> Outside		Inside _____ Outside <u>X</u>		Inside _____ Outside		Inside _____ Outside	
Recorder No. <u>7300</u>		Recorder No. <u>8913</u>		Recorder No.		Recorder No.	
Capacity <u>6200</u>		Capacity <u>6000</u>		Capacity		Capacity	
Depth <u>9802</u>		Depth <u>9824</u>		Depth		Depth	
NUMBER KEY:							
1 - INITIAL HYDROSTATIC		<u>4553</u>		<u>4551</u>			
2 - PRE-FLOW		<u>69</u>		<u>114</u>			
3 - INITIAL SHUT-IN		<u>793</u>		<u>803</u>			
4a - 2nd INITIAL FLOW				Unable to photograph			
4b - 2nd FINAL FLOW							
4c - 2nd SHUT-IN							
5 - 3rd INITIAL FLOW		<u>64</u>		<u>75</u>			
6 - FINAL FLOW		<u>204</u>		<u>206</u>			
7 - FINAL SHUT-IN		<u>827</u>		<u>816</u>			
8 - FINAL HYDROSTATIC		<u>4438</u>		<u>4436</u>			

Company Anschutz State
 Well Name and Description Anschutz State 1A - 913
 Test No. Three
 Date of Test June 30/74



ANSCHUTZ STATE

1A - 913

7300 - 3

16S
22E
9

MP

T 16S R 22E SEC 9

TEXOMA PRODUCTION
WELL: STATE 913-1A
GRAND COUNTY, UTAH
API # 43-019-30193

STATE 913-1A

T
R
S
21

The Anschutz Corp.

Company

Anschutz State 1-A 913

Well Name and Description

Two

Test No.

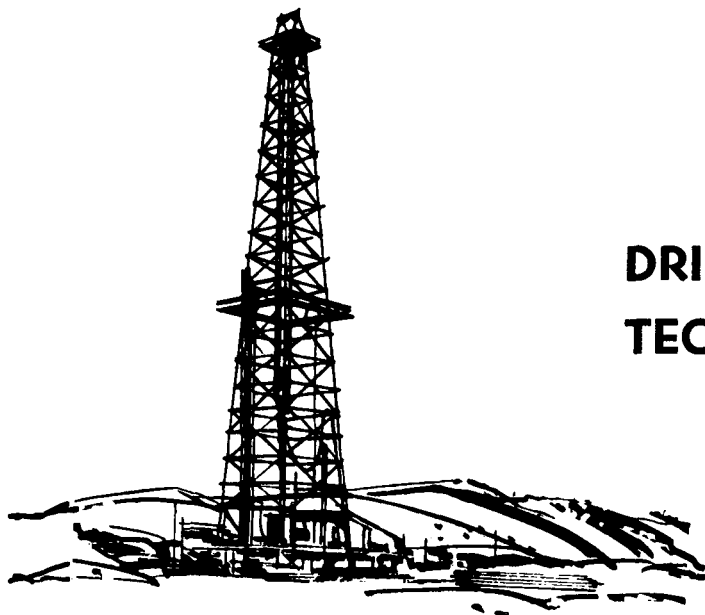
June 14, 15/74

Date of Test

LYNES

BRIGHT NAME IN THE OIL PATCH

Inflatable and Conventional Packer Tools



**DRILL STEM TEST
TECHNICAL SERVICE REPORT**

NOMENCLATURE (Definition of Symbols)

Q	= average production rate during test, bbls./day
Q_R	= measured gas production rate during test, MCF/day
k	= permeability, md
h	= net pay thickness, ft. (when unknown, test interval is chosen)
μ	= fluid viscosity, centipoise
Z	= compressibility factor
T_r	= reservoir temperature, ° Rankine
m	= slope of final SIP buildup plot, psig/cycle (psig ² /cycle for gas)
b	= approximate radius of investigation, feet
r_w	= wellbore radius, feet
t_o	= total flowing time, minutes
P_o	= Extrapolated maximum reservoir pressure, psig
P_f	= final flowing pressure, psig
$P.I.$	= productivity index, bbls./day/psi
$P.I._t$	= theoretical productivity index with damage removed, bbl./day/psi
$D.R.$	= damage ratio
$E.D.R.$	= estimated damage ratio
AOF	= absolute open flow potential, MCF/D
AOF_t	= theoretical absolute open flow if damage were removed
Z	= subsea depth
W	= water gradient based on salinity
H_w	= potentiometric surface

INTERPRETATION CALCULATIONS (OIL/WATER)			
AVERAGE PRODUCTION RATE DURING TEST $Q = \frac{1440 \text{ (drill collar capacity x recovery + drill pipe capac. x recovery)}}{\text{initial flow time + final flow time}}$ $= \frac{1440 \left[\left(\frac{\text{ }{\text{ }} \right) \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) + \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \right]}{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right) + \left(\frac{\text{ }{\text{ }}}{\text{ }} \right)}$ $= 1440 \left[.0145 \text{ or } .0073 \right] \left(\frac{\text{ }{\text{ }}}{\text{ }} \right)$ <div style="display: flex; justify-content: space-between;"> = bbls./day Mud Expansion = ft. (Drill Collar Conversion is Considered) </div>			
FLUID PROPERTIES Estimated Bottom Hole Temperature ° API Gravity @ 60° F. ° Specific Gravity @ 60° F. Est. Viscosity cp			
TRANSMISSIBILITY $\frac{kh}{\mu} = \frac{162.6Q}{m} = \frac{162.6 \left(\frac{\text{ }{\text{ }}}{\text{ }} \right)}{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right)} = \text{..... md.-ft/cp}$			
IN SITU CAPACITY $kh = \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) = \text{..... md.-ft.}$			
AVERAGE EFFECTIVE PERMEABILITY Estimated Pay Thickness Ft. Actual Pay Thickness Ft. $k = \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) = \text{..... md.}$			
PRODUCTIVITY INDEX $PI = \frac{Q}{P_o - P_f} = \frac{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right)}{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right) - \left(\frac{\text{ }{\text{ }}}{\text{ }} \right)} = \text{..... bbl./day-psi}$			
DAMAGE RATIO $D.R. = \frac{0.183 (P_o - P_f)}{m} = \frac{0.183 \left[\left(\frac{\text{ }{\text{ }}}{\text{ }} \right) - \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \right]}{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right)} = \text{.....}$			
PRODUCTIVITY INDEX WITH DAMAGE REMOVED $P.I._t = P.I. \times D.R. = \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) = \text{..... bbl./day-psi}$			
APPROXIMATE RADIUS OF INVESTIGATION $b = \sqrt{k t_o} = \sqrt{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \left(\frac{\text{ }{\text{ }}}{\text{ }} \right)} = \text{..... ft.}$			
Drawdown Factor = $\frac{I.S.I.P. - F.S.I.P. \times 100}{I.S.I.P.} = \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) - \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \times 100 = \text{..... \%}$ <div style="text-align: right; font-size: small;">(4% to 5% is considered serious or substantial)</div>			
Potentiometric Surface = $H_w = Z + \frac{P_o}{W}$ $h_w = \text{.....} + \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) = + \text{.....} \pm \text{..... ft.}$			

INTERPRETATION CALCULATIONS (GAS)			
ESTIMATED GAS PROPERTIES R(T_d) = ° Gravity @ 60° F. Viscosity (Res.) cp. Estimated Bottom Hole Temperature ° Compressibility Factor (Z)			
TRANSMISSIBILITY Measured D.S.T. Gas Rate = mcf/d. $\frac{kh}{\mu} = \frac{1637 Q_g Z T_r}{m} = \frac{1637 \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \left(\frac{\text{ }{\text{ }}}{\text{ }} \right)}{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right)} = \text{..... md.-ft. cp.}$			
IN SITU CAPACITY $kh = \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) = \text{..... md.-ft.}$			
AVERAGE EFFECTIVE PERMEABILITY Estimated Pay Thickness Ft. Actual Pay Thickness Ft. $k = \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) = \text{..... md.}$			
APPROXIMATE RADIUS OF INVESTIGATION $b = 0.02 \sqrt{k t_o P_o} = 0.02 \sqrt{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \left(\frac{\text{ }{\text{ }}}{\text{ }} \right)} = \text{..... ft.}$			
ACTUAL CAPACITY $kh = \frac{3270 Q_g \mu Z T_r \log \left(\frac{b}{P_o^2 - P_f^2} \right)}{P_o^2 - P_f^2} = \frac{3270 \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \log \left(\frac{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right)}{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right) - \left(\frac{\text{ }{\text{ }}}{\text{ }} \right)} \right)}{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right) - \left(\frac{\text{ }{\text{ }}}{\text{ }} \right)} = \text{..... md.-ft.}$			
DAMAGE RATIO E.D.R. = $\frac{(P_o^2 - P_f^2)}{m (\log T_o + 2.65)}$ $D.R. = \frac{\text{In Situ Capacity}}{\text{Actual Capacity}} = \frac{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right)}{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right)} = \text{.....}$ <div style="text-align: right;">E.D.R. =</div>			
ESTIMATED RANGE OF AOF POTENTIAL $\text{Max. AOF} = \frac{Q_g P_o^2}{P_o^2 - P_f^2} = \frac{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \left(\frac{\text{ }{\text{ }}}{\text{ }} \right)}{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right) - \left(\frac{\text{ }{\text{ }}}{\text{ }} \right)} = \text{..... MCF/D}$ $\text{Min. AOF} = \frac{Q_g P_o}{\sqrt{P_o^2 - P_f^2}} = \frac{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \left(\frac{\text{ }{\text{ }}}{\text{ }} \right)}{\sqrt{\left(\frac{\text{ }{\text{ }}}{\text{ }} \right) - \left(\frac{\text{ }{\text{ }}}{\text{ }} \right)}} = \text{..... MCF/D}$			
ESTIMATED RANGE OF AOF POTENTIAL, DAMAGE REMOVED $\text{Max. AOF}_t = (\text{Max. AOF}) (D.R.) = \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) = \text{..... MCF/D}$ $\text{Min. AOF}_t = (\text{Min. AOF}) (D.R.) = \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) = \text{..... MCF/D}$			
Drawdown Factor = $\frac{I.S.I.P. - F.S.I.P. \times 100}{I.S.I.P.} = \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) - \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) \times 100 = \text{..... \%}$ <div style="text-align: right; font-size: small;">(4% to 5% is considered serious or substantial)</div>			
Potentiometric Surface = $H_w = Z + \frac{P_o}{W}$ $H_w = \text{.....} + \left(\frac{\text{ }{\text{ }}}{\text{ }} \right) = + \text{.....} \pm \text{..... ft.}$			

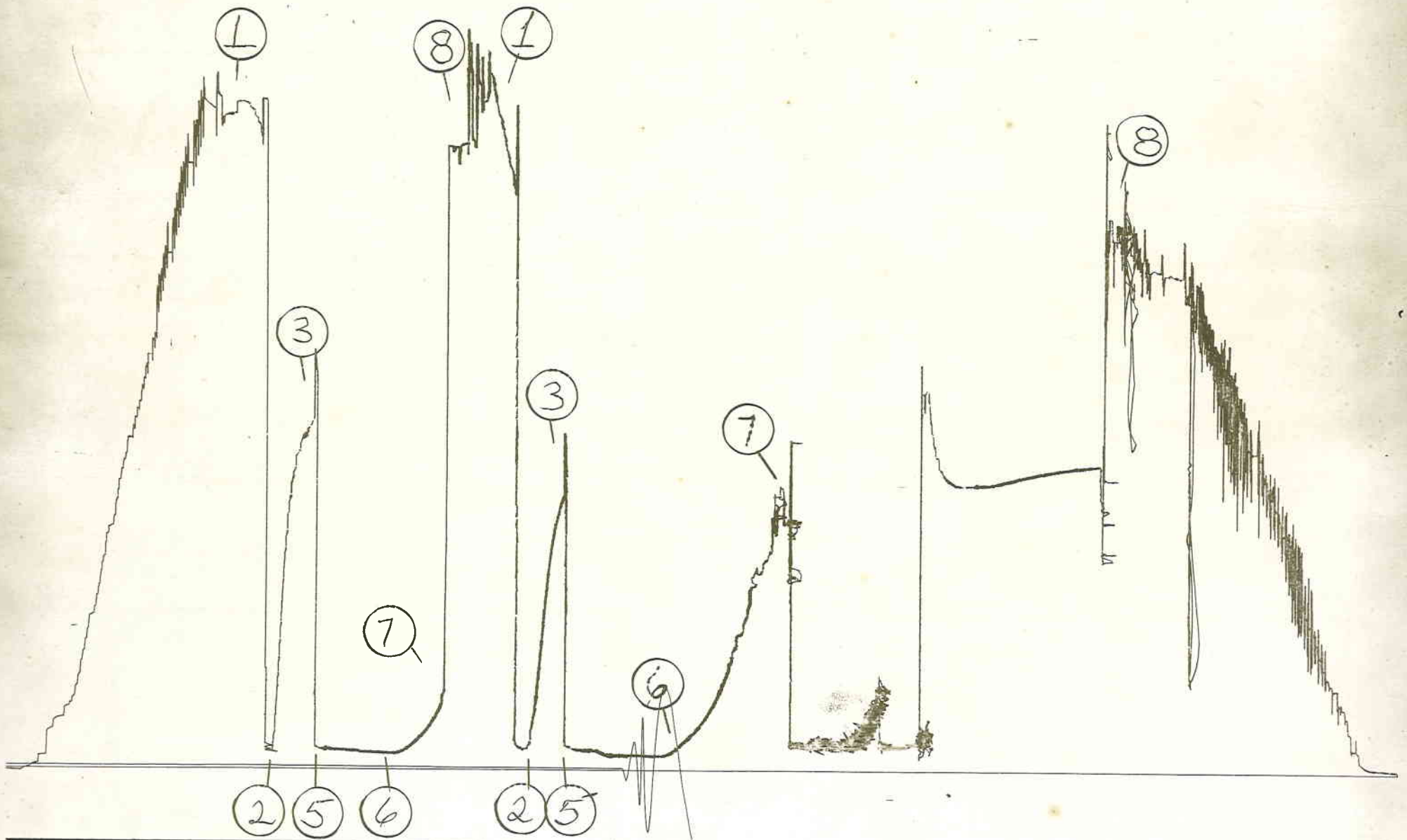
LYNES UNITED SERVICES LTD.

TEST DATA				GENERAL INFORMATION			
Test No. <u>Two</u>		Lynes Test <u>Two</u>		Company <u>The Anschutz Corp.</u>			
Formation <u>Castle Gate #3</u>		T.D. <u>5726</u> Ft.		Address <u>1110 Denver Club Building</u>			
Interval Tested <u>5695</u>		Ft. to <u>5715</u>		Denver, Colo. <u>80202</u>			
Interval Tested <u>20</u>		Ft. Net Pay Tested <u>20</u>					
Type of Test <u>Inflate Straddle</u>							
Cushion		Amount		Well Name <u>Anschutz State</u>			
Started in Hole at		Hrs. Tool Open at <u>20:08</u> Hrs.		Well Number <u>1-A 913</u>			
Pre-Flow <u>5</u> Mins.		Initial Shut-in <u>30</u> Mins.		K.B. Elevation <u>7436</u> Sub-Sea Elevation <u>7424</u>			
2nd Flow		Second Shut-in		Area <u>Grand County</u> Province <u>Utah</u>			
Final Flow <u>60</u> Mins.		Final Shut-in <u>60</u> Mins.		Company Rep. <u>W. Don Quigley</u>			
Remarks:				Tester <u>James Holmes</u>			
				Contractor <u>Pease</u> Rig No. <u>5</u>			
				Ticket No. <u>72-572</u> Date <u>June 14, 15/74</u>			
				Service Reports To:			
				<u>9 - above address</u>			
Blow: <u>Preflow open with very weak blow 1/8" water. Final flow open with very weak blow 1/8" water and died in 10 mins., came back to 1" water ended test, 1/2" water.</u>							
GAS BLOW MEASUREMENTS							
Measured with				MUD AND HOLE DATA			
<u>No gas to surface</u>				Mud Type <u>Gel Chem resist 2.0 @ 70°</u>			
Time	Surface Choke	Reading Inches	Cubic Feet/Day	Weight <u>9</u>	Viscosity <u>43</u>	Water Loss <u>4.6</u>	
				Filter Cake <u>2/32</u>	Bottom Hole Temperature <u>125°</u>		
				Drill Pipe Size <u>4 1/2"</u>	Weight <u>16.60</u>		
				Drill Collars <u>6 - 5 5/8" I.D. 2.25</u>	Feet Run <u>573</u>		
				Main Hole or Casing Size <u>8 3/4</u>			
				Rathole or Liner Size	No. of Feet		
				Bottom Hole Choke Size <u>1"</u>			
				Surface Choke Size			
				Packer Rubber Size <u>7 7/8"</u>			
				REMARKS			
				<u>Shut-in pressures suggest low permeability within the interval tested.</u>			
				<u>Went down hole 84' for this test, had trouble getting loose, pulled pipe in two, split hydraulic tool. Sampler reg. 65 P.S.I. 1100 cc gas, drilling mud.</u>			
				<u>This was the second of two tests run on the same trip in the hole.</u>			
RECOVERY <u>For tests 1 & 2</u>							
TOTAL FLUID RECOVERED <u>958</u> Ft. Consisting of:							
<u>550</u> Ft. of <u>gas drilling mud</u>							
<u>200</u> Ft. of <u>vapor gas</u>							
Ft. of							
Ft. of							
Test was/was not Reverse Circulated <u>Was not</u>							
Oil Recovery A.P.I. <u>Water Specific Gravity</u>							
Salinity <u>resist 2.2 @ 75°</u>							
PRESSURE READINGS							
Inside <u>X</u> Outside		Inside _____ Outside <u>X</u>		Inside _____ Outside <u>X</u>		Inside _____ Outside _____	
Recorder No. <u>5155</u>		Recorder No. <u>7097</u>		Recorder No. <u>6081</u>		Recorder No. _____	
Capacity <u>5000</u>		Capacity <u>4000</u>		Capacity <u>72°-311°</u>		Capacity _____	
Depth <u>5665</u>		Depth <u>5705</u>		Depth <u>5705</u>		Depth _____	
NUMBER KEY:							
1 - INITIAL HYDROSTATIC		<u>2427</u>		<u>2465</u>		<u>125</u>	
2 - PRE-FLOW		<u>66</u>		<u>108</u>			
3 - INITIAL SHUT-IN		<u>1130</u>		<u>1119</u>			
4a - 2nd INITIAL FLOW							
4b - 2nd FINAL FLOW							
4c - 2nd SHUT-IN							
5 - 3rd INITIAL FLOW		<u>64</u>		<u>100</u>			
6 - FINAL FLOW		<u>52</u>		<u>59</u>			
7 - FINAL SHUT-IN		<u>421 (false)</u>		<u>1028 (false)</u>			
8 - FINAL HYDROSTATIC				<u>2174</u>			

The Anschutz Corp.
 Anschutz State 1-A 913
 Well Name and Description
 Two
 Test No.
 June 14, 15/74
 Date of Test

ANSCHUTZ STATE • 1A-913

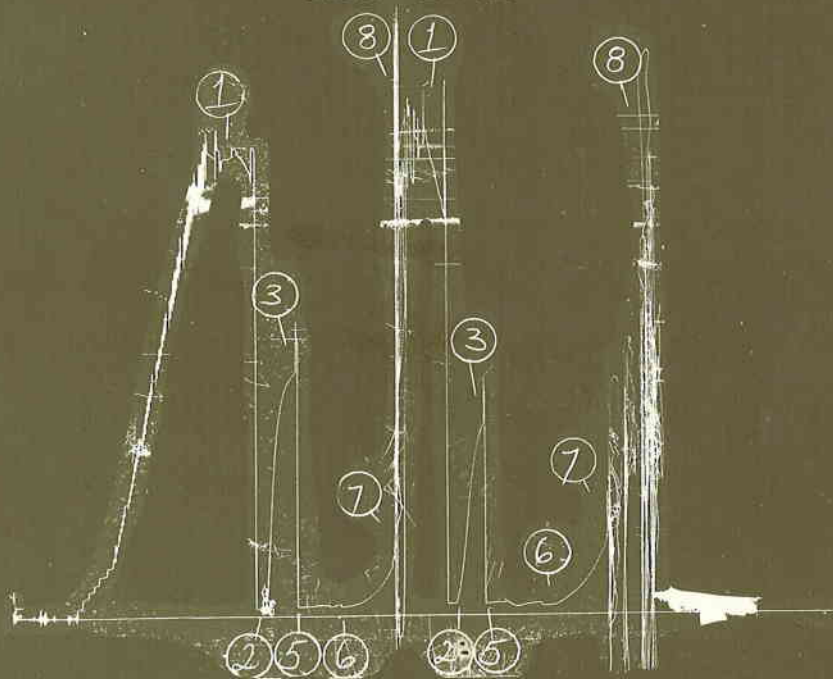
7097-1+2



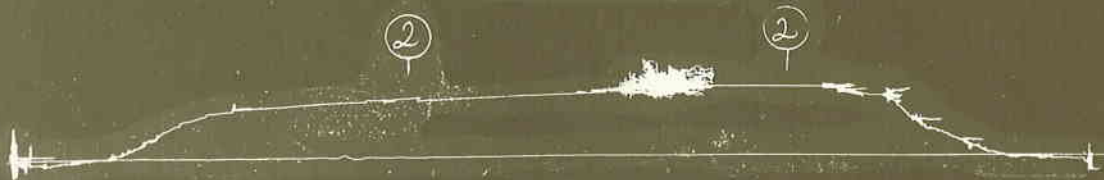
ANSCHUTZ STATE

1A - 913

5155-1+2



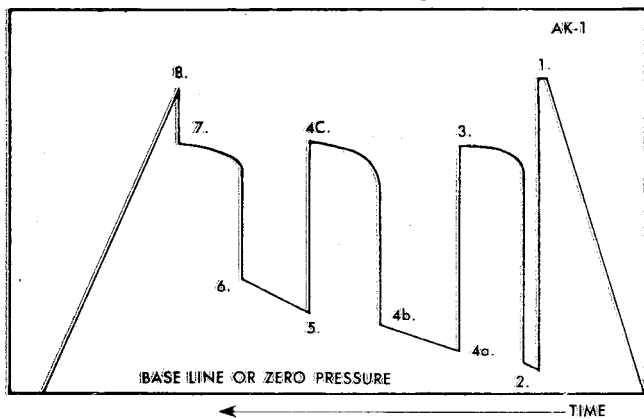
6081-1+2 TEMP.



GUIDE TO INTERPRETATION AND IDENTIFICATION OF LYNES DRILL STEM TEST PRESSURE CHARTS

In making any interpretation, our employees will give Customer the benefit of their best judgment as to the correct interpretation. Nevertheless, since all interpretations are opinions based on inferences from electrical, mechanical or other measurements, we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not be liable or responsible, except in the case of gross or wilful negligence on our part, for any loss, costs, damages or expenses incurred or sustained by Customer resulting from any interpretation made by any of our agents or employees.

AK-1 recorders. Read from right to left.

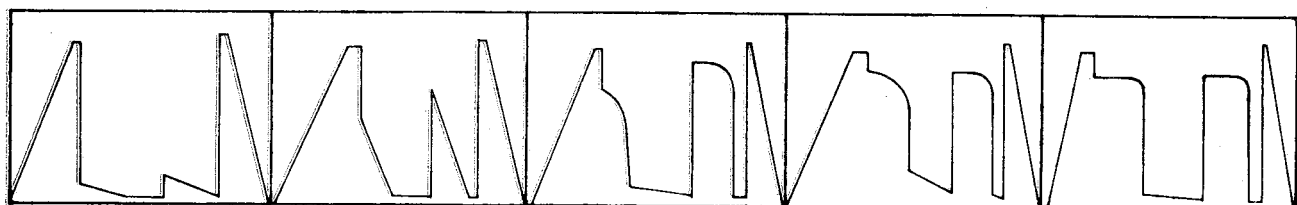


1. INITIAL HYDROSTATIC MUD PRESSURE
2. PRE-FLOW
3. INITIAL SHUT-IN
- 4a. 2nd INITIAL FLOW
- 4b. 2nd FINAL FLOW
- 4c. 2nd SHUT-IN
5. 3rd INITIAL FLOW
6. FINAL FLOW
7. FINAL SHUT-IN
8. FINAL HYDROSTATIC MUD PRESSURE

N.B. When only two shut-in and flow periods are run, 4a, 4b and 4c are omitted.

K-K-3 recorders. Read from left to right.

Typical charts for visual field analysis ranging from very low to high permeability.



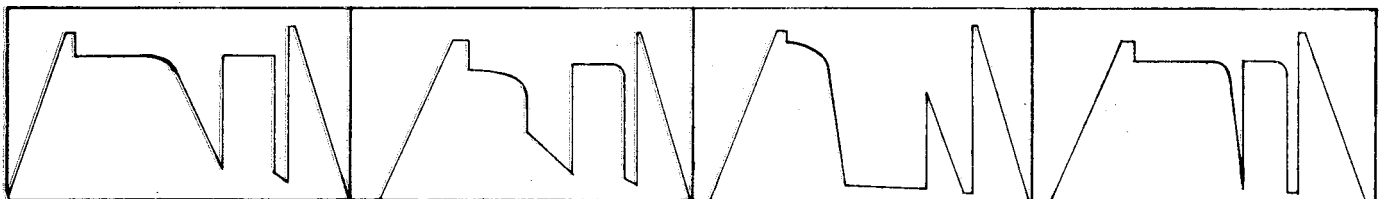
Very low permeability. Usually only mud recovered from interval tested. Virtually no permeability.

Slightly higher permeability. Again usually mud recovered.

Slightly higher permeability. Small recovery, less than 200' ft).

Average permeability. Final and initial shut-ins differ by 50 psi.

Average permeability. Strong damage effect. High shut-in pressure, low flow pressure.

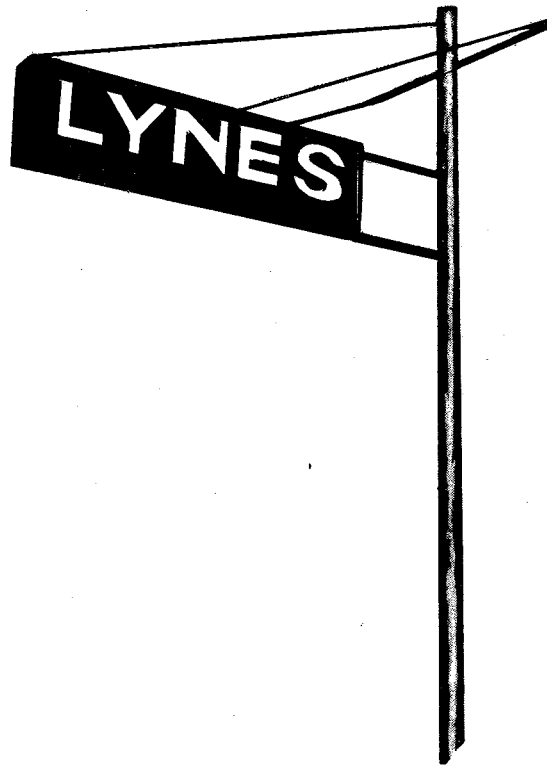


Excellent permeability where final flow final shut-in pressure.

High permeability where ISIP and FSIP are within 10 psi.

Deep well bore invasion or damage. Final shut-in higher than the initial shut-in.

Tight hole chamber tester. Permeability very difficult to interpret unless the recovery is less than chamber length. Flow pressure builds up rapidly if recovery is large, similar to a shut-in.



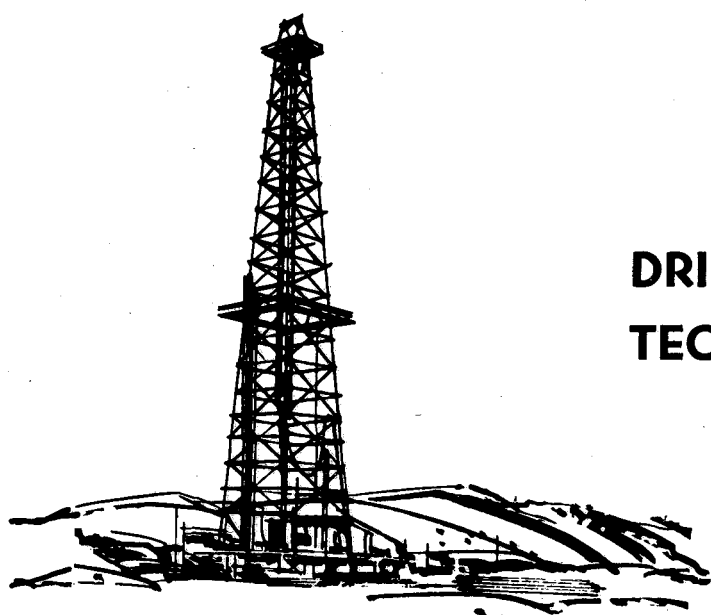
LYNES UNITED SERVICES LTD. 262-4501 CALGARY, ALBERTA



LYNES

BRIGHT NAME IN THE OIL PATCH

Inflatable and Conventional Packer Tools



**DRILL STEM TEST
TECHNICAL SERVICE REPORT**

8463
The Anschutz Corp.
Company

Anschutz State 1-A 913
Well Name and Description

One
Test No.

June 14/74
Date of Test

NOMENCLATURE (Definition of Symbols)

\bar{Q}	= average production rate during test, bbls./day
Q_g	= measured gas production rate during test, MCF/day
k	= permeability, md
h	= net pay thickness, ft. (when unknown, test interval is chosen)
μ	= fluid viscosity, centipoise
Z	= compressibility factor
T_r	= reservoir temperature, ° Rankine
m	= slope of final SIP buildup plot, psig/cycle (psig ² /cycle for gas)
b	= approximate radius of investigation, feet
r_w	= wellbore radius, feet
t_o	= total flowing time, minutes
P_o	= Extrapolated maximum reservoir pressure, psig
P_f	= final flowing pressure, psig
P.I.	= productivity index, bbls./day/psi
P.I. _t	= theoretical productivity index with damage removed, bbl./day/psi
D.R.	= damage ratio
E.D.R.	= estimated damage ratio
AOF	= absolute open flow potential, MCF/D
AOF _t	= theoretical absolute open flow if damage were removed
\bar{z}	= subsea depth
W	= water gradient based on salinity
H_w	= potentiometric surface

INTERPRETATION CALCULATIONS (OIL/WATER)			
AVERAGE PRODUCTION RATE DURING TEST $\bar{Q} = 1440 \left(\frac{\text{drill collar capacity} \times \text{recovery} + \text{drill pipe capac.} \times \text{recovery}}{\text{initial flow time} + \text{final flow time}} \right)$ $= 1440 \left(\frac{(\quad)(\quad) + (\quad)(\quad)}{(\quad) + (\quad)} \right)$ $= 1440 \left(\frac{.0145 \text{ or } .0073}{(\quad)} \right) \quad \text{Mud Expansion} = \frac{(\quad)}{(\quad)} \text{ ft.}$ $= (\quad) \text{ bbls./day} \quad \left(\text{Drill Collar Conversion Is Considered} \right)$			
FLUID PROPERTIES Estimated Bottom Hole Temperature ° API Gravity @ 60° F. () ° Specific Gravity @ 60° F. () Est. Viscosity () cp			
TRANSMISSIBILITY $\frac{k_h}{\mu} = \frac{162.6 \bar{Q}}{m} = \frac{162.6 (\quad)}{(\quad)} = (\quad) \text{ md-ft/cp}$			
IN SITU CAPACITY $k_h = (\quad) (\quad) = (\quad) \text{ md-ft.}$			
AVERAGE EFFECTIVE PERMEABILITY Estimated Pay Thickness Ft. $k = \frac{(\quad)}{(\quad)} = (\quad) \text{ md.}$			
PRODUCTIVITY INDEX $PI = \frac{\bar{Q}}{P_o - P_f} = \frac{(\quad)}{(\quad) - (\quad)} = (\quad) \text{ bbl./day-psi}$			
DAMAGE RATIO $D.R. = \frac{0.183 (P_o - P_f)}{m} = 0.183 \left[\frac{(\quad) - (\quad)}{(\quad)} \right] = (\quad)$			
PRODUCTIVITY INDEX WITH DAMAGE REMOVED $P.I._t = P.I. \times D.R. = (\quad) (\quad) = (\quad) \text{ bbl./day-psi}$			
APPROXIMATE RADIUS OF INVESTIGATION $b = \sqrt{k h_o} = \sqrt{(\quad) (\quad)} = (\quad) \text{ ft.}$			
Drawdown Factor = $\frac{I.S.I.P. - F.S.I.P.}{I.S.I.P.} \times 100 = \frac{(\quad) - (\quad)}{(\quad)} \times 100 = (\quad) \%$ (4% to 5% is considered serious or substantial)			
Potentiometric Surface = $H_w = \bar{z} + \frac{P_o}{W}$ $H_w = (\quad) + \frac{(\quad)}{(\quad)} = (\quad) \pm (\quad) \text{ ft.}$			

INTERPRETATION CALCULATIONS (GAS)			
ESTIMATED GAS PROPERTIES Gravity @ 60° F. () Viscosity (Res.) () cp. R(T_f) = () ° Compressibility Factor (Z) ()		Estimated Bottom Hole Temperature °	
TRANSMISSIBILITY Measured D.S.T. Gas Rate = () mcf/d. $\frac{k_h}{\mu} = \frac{1637 Q_g Z T_r}{m} = \frac{1637 (\quad) (\quad) (\quad)}{(\quad)} = (\quad) \text{ md-ft./cp.}$			
IN SITU CAPACITY $k_h = (\quad) (\quad) = (\quad) \text{ md-ft.}$			
AVERAGE EFFECTIVE PERMEABILITY Estimated Pay Thickness Ft. $k = \frac{(\quad)}{(\quad)} = (\quad) \text{ md.}$			
APPROXIMATE RADIUS OF INVESTIGATION $b = 0.02 \sqrt{k h_o P_o} = 0.02 \sqrt{(\quad) (\quad) (\quad)} = (\quad) \text{ ft.}$			
ACTUAL CAPACITY $k_h = \frac{3270 Q_g \mu Z T_r \log(0.472 r_w)}{P_o^2 - P_f^2} = \frac{3270 (\quad) (\quad) (\quad) (\quad)}{(\quad) - (\quad)} = (\quad) \text{ md-ft.}$			
DAMAGE RATIO E.D.R. = $\frac{(P_o^2 - P_f^2)}{m (\log T_o + 2.65)}$ $D.R. = \frac{\text{In Situ Capacity}}{\text{Actual Capacity}} = \frac{(\quad)}{(\quad)} = (\quad)$ E.D.R. = ()			
ESTIMATED RANGE OF AOF POTENTIAL $\text{Max. AOF} = \frac{Q_g P_o^2}{P_o^2 - P_f^2} = \frac{(\quad) (\quad)}{[(\quad) - (\quad)] (\quad)} = (\quad) \text{ MCF/D}$ $\text{Min. AOF} = \frac{Q_g P_o}{\sqrt{P_o^2 - P_f^2}} = \frac{(\quad) (\quad)}{\sqrt{[(\quad) - (\quad)]}} = (\quad) \text{ MCF/D}$			
ESTIMATED RANGE OF AOF POTENTIAL, DAMAGE REMOVED $\text{Max. AOF}_t = (\text{Max. AOF}) (D.R.) = (\quad) (\quad) = (\quad) \text{ MCF/D}$ $\text{Min. AOF}_t = (\text{Min. AOF}) (D.R.) = (\quad) (\quad) = (\quad) \text{ MCF/D}$			
Drawdown Factor = $\frac{ISIP - FSIP}{ISIP} \times 100 = \frac{(\quad) - (\quad)}{(\quad)} \times 100 = (\quad) \%$ (4% to 5% is considered serious or substantial)			
Potentiometric Surface = $H_w = \bar{z} + \frac{P_o}{W}$ $H_w = (\quad) + \frac{(\quad)}{(\quad)} = (\quad) \pm (\quad) \text{ ft.}$			

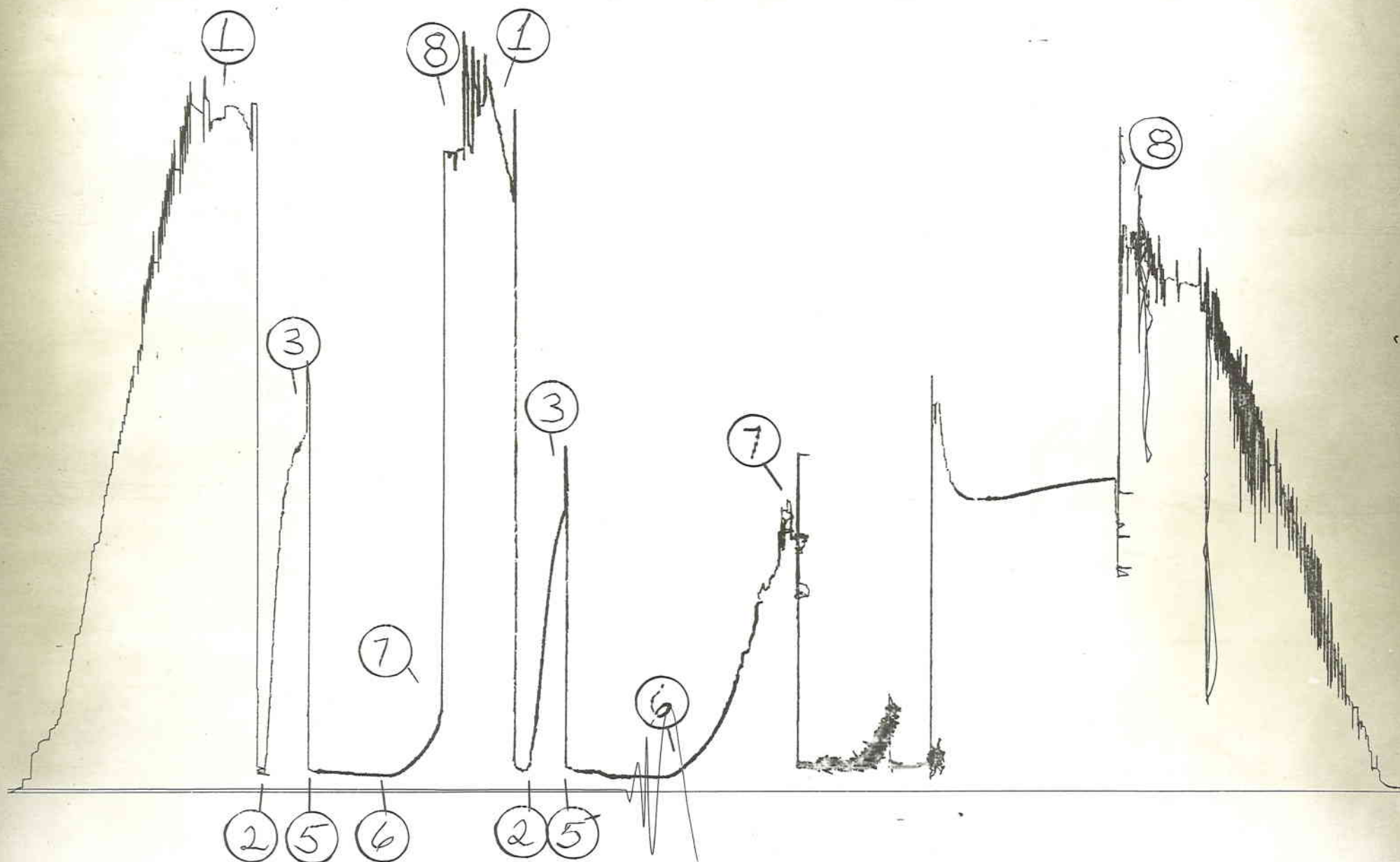
LYNES UNITED SERVICES LTD.

TEST DATA				GENERAL INFORMATION			
Test No. <u>One</u>		Lynes Test <u>One</u>		Company <u>The Anschutz Corp.</u>			
Formation <u>Castle Gate #1</u>		T.D. <u>5926</u> Ft.		Address <u>1110 Denver Club Building</u>			
Interval Tested <u>5611</u>		Ft. to <u>5631</u>		Denver, Colo. <u>80202</u>			
Interval Tested <u>20</u>		Ft. Net Pay Tested <u>20</u>					
Type of Test <u>Inflate Straddle</u>							
Cushion		Amount		Well Name <u>Anschutz State</u>			
Started in Hole at <u>11:30</u> Hrs.		Tool Open at <u>17:00</u> Hrs.		Well Number <u>1-A 913</u>			
Pre-Flow <u>5</u> Mins.		Initial Shut-in <u>30</u> Mins.		K.B. Elevation <u>7436</u> Sub-Sea Elevation <u>7424</u>			
2nd Flow		Second Shut-in		Area <u>Grand County</u> Province <u>Utah</u>			
Final Flow <u>45</u> Mins.		Final Shut-in <u>45</u> Mins.		Company Rep. <u>W. Don Quigley</u>			
Remarks:				Tester <u>James Holmes</u>			
				Contractor <u>Pease</u> Rig No. <u>5</u>			
Blow: <u>Very weak blow on preflow 1/8" water second flow open with very weak bubble and died.</u>				Ticket No. <u>72-571</u> Date <u>June 14/74</u>			
				Service Reports To:			
				<u>9 - distribution list</u>			
GAS BLOW MEASUREMENTS				MUD AND HOLE DATA			
Measured with <u>No gas</u>				Mud Type <u>Gel Chem resist 2.0 @ 70°</u>			
Time	Surface Choke	Reading Inches	Cubic Feet/Day	Weight <u>9</u> Viscosity <u>43</u> Water Loss <u>4.6</u>			
				Filter Cake <u>2/32</u> Bottom Hole Temperature <u>125°</u>			
				Drill Pipe Size <u>4 1/2</u> Weight <u>16.60</u>			
				Drill Collars <u>6"-5 5/8</u> I.D. <u>2.25</u> Feet Run <u>573</u>			
				Main Hole or Casing Size <u>8 3/4</u>			
				Rathole or Liner Size No. of Feet			
				Bottom Hole Choke Size <u>1</u>			
				Surface Choke Size			
				Packer Rubber Size <u>7 7/8"</u>			
				REMARKS			
RECOVERY				<u>Shut-in pressures suggest low permeability within the interval tested.</u>			
TOTAL FLUID RECOVERED <u>958</u> Ft. Consisting of:				<u>Sampler recovery 65# P.S.I. 1000 cc gas drilling mud.</u>			
<u>408</u> Ft. of <u>Gas drilling mud</u>							
<u>100</u> Ft. of <u>Vapor gas in D.P.</u>							
Ft. of							
Ft. of							
Test was/was not Reverse Circulated <u>Was not</u>				<u>This was the first of two tests run on the same trip in the hole.</u>			
Oil Recovery A.P.I. <u>Water Specific Gravity</u>							
Salinity <u>resist 2.2 @ 75°</u>							
PRESSURE READINGS							
Inside <u>X</u> Outside		Inside _____ Outside <u>X</u>		Inside _____ Outside <u>X</u>		Inside _____ Outside _____	
Recorder No. <u>5155</u>		Recorder No. <u>7097</u>		Recorder No. <u>6081</u>		Recorder No. _____	
Capacity <u>5000</u>		Capacity <u>4000</u>		Capacity <u>72°-311°</u>		Capacity _____	
Depth <u>5581</u>		Depth <u>5621</u>		Depth <u>5621</u>		Depth _____	
NUMBER KEY:							
1 - INITIAL HYDROSTATIC		<u>2698</u>		<u>2697</u>		<u>118</u>	
2 - PRE-FLOW		<u>43</u>		<u>92</u>			
3 - INITIAL SHUT-IN		<u>1425</u>		<u>1425</u>			
4a - 2nd INITIAL FLOW							
4b - 2nd FINAL FLOW							
4c - 2nd SHUT-IN							
5 - 3rd INITIAL FLOW		<u>50</u>		<u>92</u>			
6 - FINAL FLOW		<u>46</u>		<u>66</u>			
7 - FINAL SHUT-IN		<u>275</u>		<u>266</u>			
8 - FINAL HYDROSTATIC		<u>2594</u>		<u>2568</u>			

The Anschutz Corp. Anschutz State 1-A 913 One June 14/74 Date of Test

ANSCHUTZ STATE 1A-913

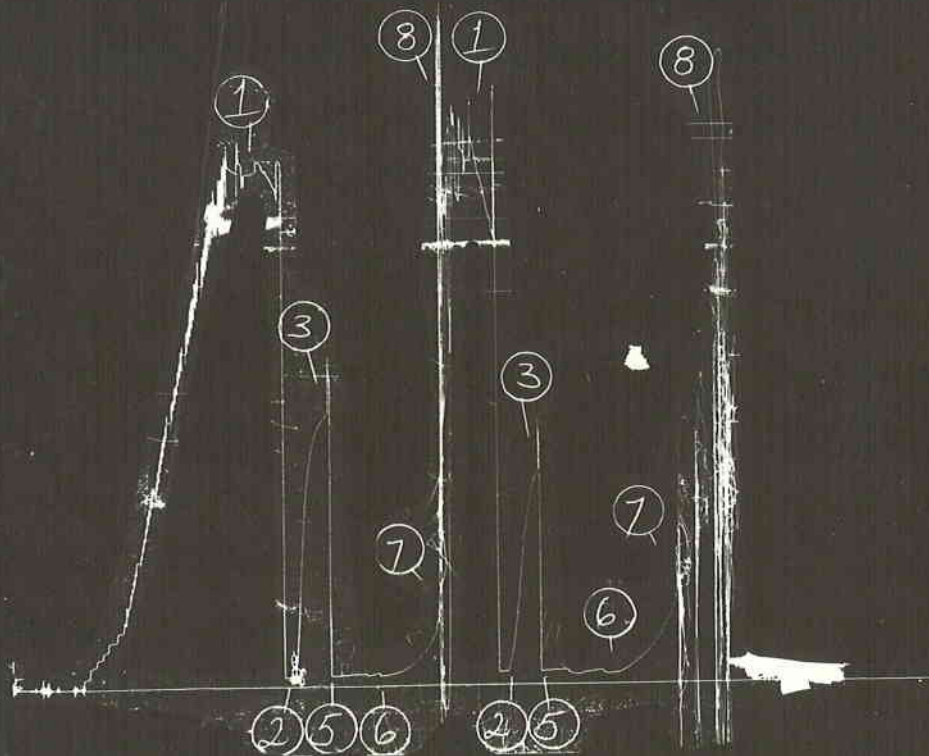
7097-1+2



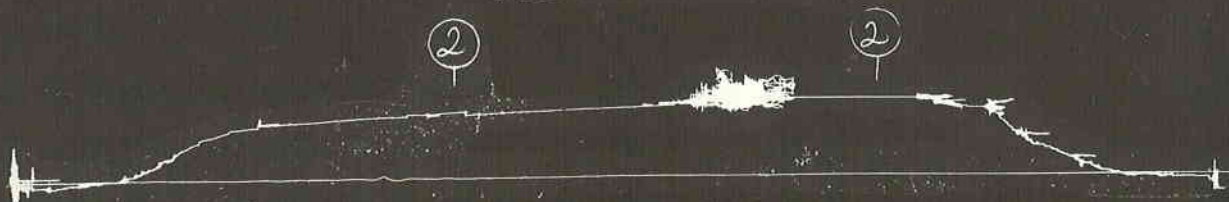
ANSCHUTZ STATE

1A - 913

5155-1+2



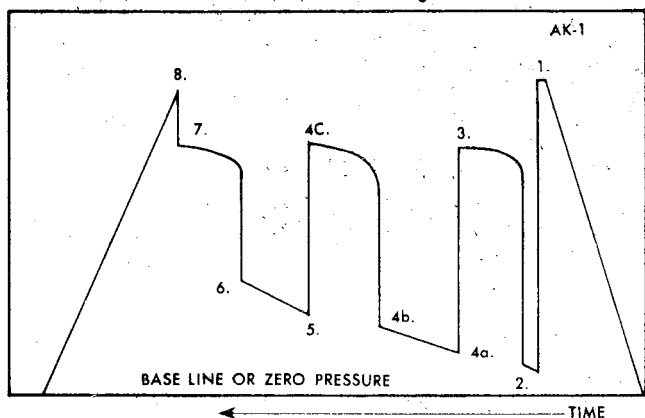
6081-1+2 TEMP.



GUIDE TO INTERPRETATION AND IDENTIFICATION OF LYNES DRILL STEM TEST PRESSURE CHARTS

In making any interpretation, our employees will give Customer the benefit of their best judgment as to the correct interpretation. Nevertheless, since all interpretations are opinions based on inferences from electrical, mechanical or other measurements, we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not be liable or responsible, except in the case of gross or wilful negligence on our part, for any loss, costs, damages or expenses incurred or sustained by Customer resulting from any interpretation made by any of our agents or employees.

AK-1 recorders. Read from right to left.

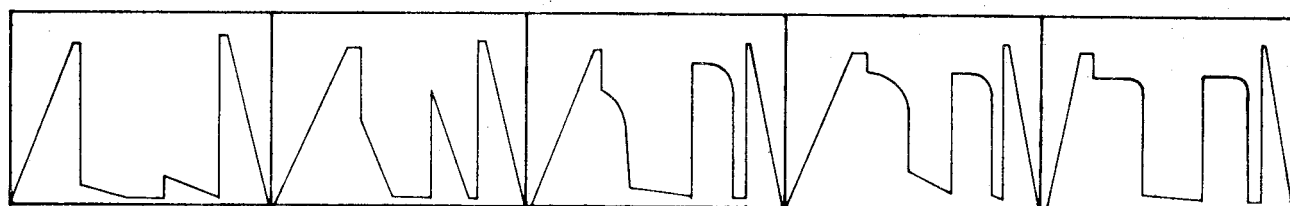


1. INITIAL HYDROSTATIC MUD PRESSURE
2. PRE-FLOW
3. INITIAL SHUT-IN
- 4a. 2nd INITIAL FLOW
- 4b. 2nd FINAL FLOW
- 4c. 2nd SHUT-IN
5. 3rd INITIAL FLOW
6. FINAL FLOW
7. FINAL SHUT-IN
8. FINAL HYDROSTATIC MUD PRESSURE

N.B. When only two shut-in and flow periods are run, 4a, 4b and 4c are omitted.

K-K-3 recorders. Read from left to right.

Typical charts for visual field analysis ranging from very low to high permeability.



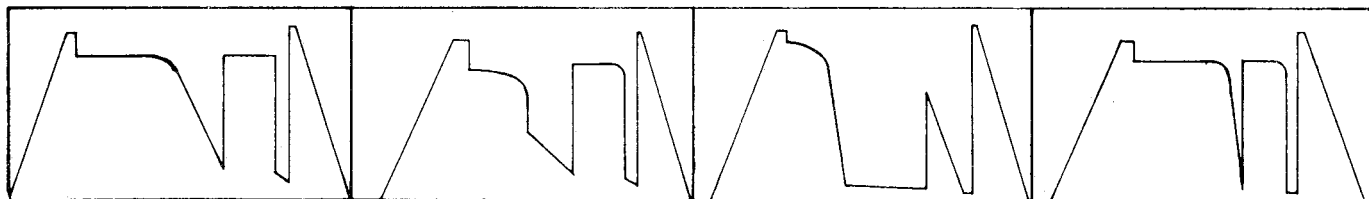
Very low permeability. Usually only mud recovered from interval tested. Virtually no permeability.

Slightly higher permeability. Again mud recovered.

Slightly higher permeability. Small recovery, less than 200' ft).

Average permeability. Final and initial shut-ins differ by 50 psi.

Average permeability. Strong damage effect. High shut-in pressure, low flow pressure.

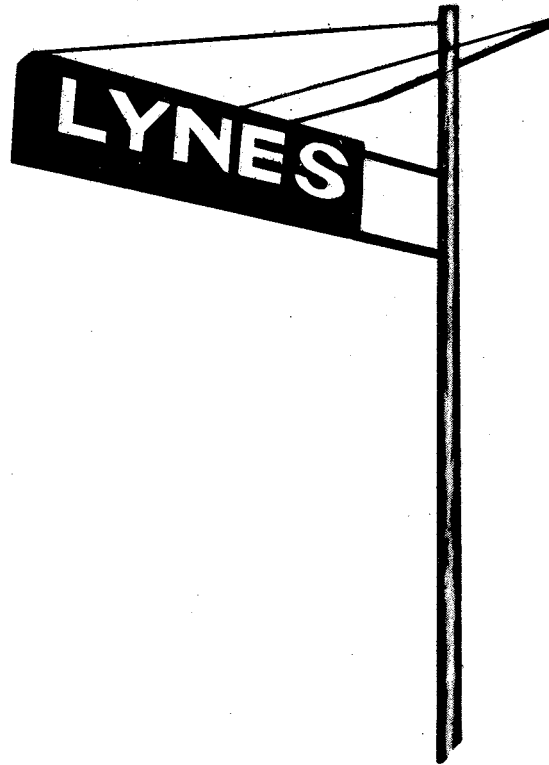


Excellent permeability where final flow final shut-in pressure.

High permeability where ISIP and FSIP are within 10 psi.

Deep well bore invasion or damage. Final shut-in higher than the initial shut-in.

Tight hole chamber tester. Permeability very difficult to interpret unless the recovery is less than chamber length. Flow pressure builds up rapidly if recovery is large, similar to a shut-in.



LYNES UNITED SERVICES LTD. 262-4501 CALGARY, ALBERTA

The Anschutz Corp.

Anschutz State I-A 913

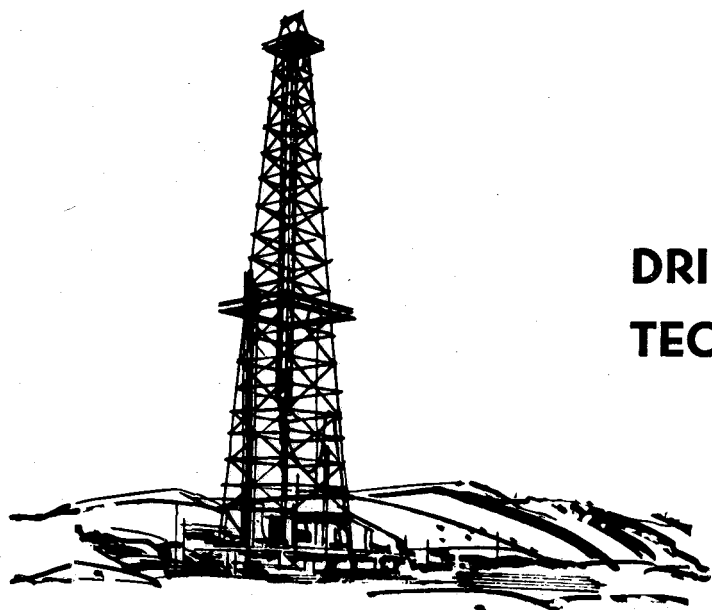
One	Test No
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June 14/74	Date of Test
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LYNES

BRIGHT NAME IN THE OIL PATCH

Inflatable and Conventional Packer Tools



DRILL STEM TEST TECHNICAL SERVICE REPORT

NOMENCLATURE (Definition of Symbols)

\bar{Q}	= average production rate during test, bbls./day
Q_R	= measured gas production rate during test, MCF/day
k	= permeability, md
h	= net pay thickness, ft. (when unknown, test interval is chosen)
μ	= fluid viscosity, centipoise
Z	= compressibility factor
T_r	= reservoir temperature, ° Rankine
m	= slope of final SIP buildup plot, psig/cycle (psig ² /cycle for gas)
b	= approximate radius of investigation, feet
r_w	= wellbore radius, feet
t_o	= total flowing time, minutes
P_o	= Extrapolated maximum reservoir pressure, psig
P_r	= final flowing pressure, psig
$P.I.$	= productivity index, bbls./day/psi
$P.I._t$	= theoretical productivity index with damage removed, bbl./day/psi
$D.R.$	= damage ratio
$E.D.R.$	= estimated damage ratio
AOF	= absolute open flow potential, MCF/D
AOF_t	= theoretical absolute open flow if damage were removed
Z	= subsea depth
W	= water gradient based on salinity
H_w	= potentiometric surface

INTERPRETATION CALCULATIONS (OIL/WATER)	
AVERAGE PRODUCTION RATE DURING TEST $\bar{Q} = \frac{1440 (\text{drill collar capacity} \times \text{recovery} + \text{drill pipe capac.} \times \text{recovery})}{\text{initial flow time} + \text{final flow time}}$ $= \frac{1440 [() () + () ()]}{() + ()}$ $= 1440 [0.0145 \text{ or } .0073] ()$ $= \text{ } \text{ bbls./day}$ <div style="text-align: right; margin-top: -20px;">Mud Expansion = $\frac{\text{ } \text{ ft.}}{\text{ (Drill Collar Conversion) Is Considered }}$</div>	
FLUID PROPERTIES Estimated Bottom Hole Temperature $^{\circ}$ API Gravity @ 60° F. $^{\circ}$ Specific Gravity @ 60° F. $^{\circ}$ Est. Viscosity cp	
TRANSMISSIBILITY $\frac{kh}{\mu} = \frac{162.6 \bar{Q}}{m} = \frac{162.6 ()}{()} = \text{ } \text{ md.-ft./cp}$	
IN SITU CAPACITY $kh = () () = \text{ } \text{ md.-ft.}$	
AVERAGE EFFECTIVE PERMEABILITY Estimated Pay Thickness ft. Actual Pay Thickness ft. $k = \frac{\text{ } \text{ md.}}{\text{ } \text{ md.}}$	
PRODUCTIVITY INDEX $PI = \frac{\bar{Q}}{P_o - P_r} = \frac{()}{() - ()} = \text{ } \text{ bbl./day-psi}$	
DAMAGE RATIO $D.R. = \frac{0.183 (P_o - P_r)}{m} = \frac{0.183 [() - ()]}{()} = \text{ }$	
PRODUCTIVITY INDEX WITH DAMAGE REMOVED $P.I._t = P.I. \times D.R. = () () = \text{ } \text{ bbl./day-psi}$	
APPROXIMATE RADIUS OF INVESTIGATION $b = \sqrt{k t_o} = \sqrt{() ()} = \text{ } \text{ ft.}$	
Drawdown Factor = $\frac{I.S.I.P. - F.S.I.P. \times 100}{I.S.I.P.} = \frac{() - () \times 100}{()} = \text{ } \%$ (4% to 5% is considered serious or substantial)	
Potentiometric Surface = $H_w = Z + \frac{P_o}{W}$ $H_w = \text{ } + \frac{()}{()} = \text{ } \pm \text{ } \text{ ft.}$	

INTERPRETATION CALCULATIONS (GAS)	
ESTIMATED GAS PROPERTIES Estimated Bottom Hole Temperature $^{\circ}$ Gravity @ 60° F. $^{\circ}$ Viscosity (Res.) cp. Compressibility Factor (Z) $^{\circ}$	
TRANSMISSIBILITY Measured D.S.T. Gas Rate = mcf/d. $\frac{kh}{\mu} = \frac{1637 \bar{Q}_g Z T_r}{m} = \frac{1637 () () ()}{()} = \text{ } \text{ md.-ft./cp.}$	
IN SITU CAPACITY $kh = () () = \text{ } \text{ md.-ft.}$	
AVERAGE EFFECTIVE PERMEABILITY Estimated Pay Thickness ft. Actual Pay Thickness ft. $k = \frac{\text{ } \text{ md.}}{\text{ } \text{ md.}}$	
APPROXIMATE RADIUS OF INVESTIGATION $b = 0.02 \sqrt{k t_o P_o} = 0.02 \sqrt{() () ()} = \text{ } \text{ ft.}$	
ACTUAL CAPACITY $kh = \frac{3270 \bar{Q}_g \mu Z T_r \log[0.472 r_w]}{P_o^2 - P_r^2} = \frac{3270 () () () ()}{() - ()} = \text{ } \text{ md.-ft.}$	
DAMAGE RATIO E.D.R. = $\frac{(P_o^2 - P_r^2)}{m (\log T_o + 2.65)}$ $D.R. = \frac{\text{In Situ Capacity}}{\text{Actual Capacity}} = \frac{()}{()} = \text{ }$ E.D.R. = 	
ESTIMATED RANGE OF AOF POTENTIAL Max. AOF = $\frac{\bar{Q}_g P_o^2}{P_o^2 - P_r^2} = \frac{() ()}{() - ()} = \text{ } \text{ MCF/D}$ Min. AOF = $\frac{\bar{Q}_g P_o}{\sqrt{P_o^2 - P_r^2}} = \frac{() ()}{\sqrt{() - ()}} = \text{ } \text{ MCF/D}$	
ESTIMATED RANGE OF AOF POTENTIAL, DAMAGE REMOVED Max. AOF _t = (Max. AOF) (D.R.) = $() () = \text{ } \text{ MCF/D}$ Min. AOF _t = (Min. AOF) (D.R.) = $() () = \text{ } \text{ MCF/D}$	
Drawdown Factor = $\frac{I.S.I.P. - F.S.I.P. \times 100}{I.S.I.P.} = \frac{() - () \times 100}{()} = \text{ } \%$ (4% to 5% is considered serious or substantial)	
Potentiometric Surface = $H_w = Z + \frac{P_o}{W}$ $H_w = \text{ } + \frac{()}{()} = \text{ } \pm \text{ } \text{ ft.}$	

LYNES UNITED SERVICES LTD.

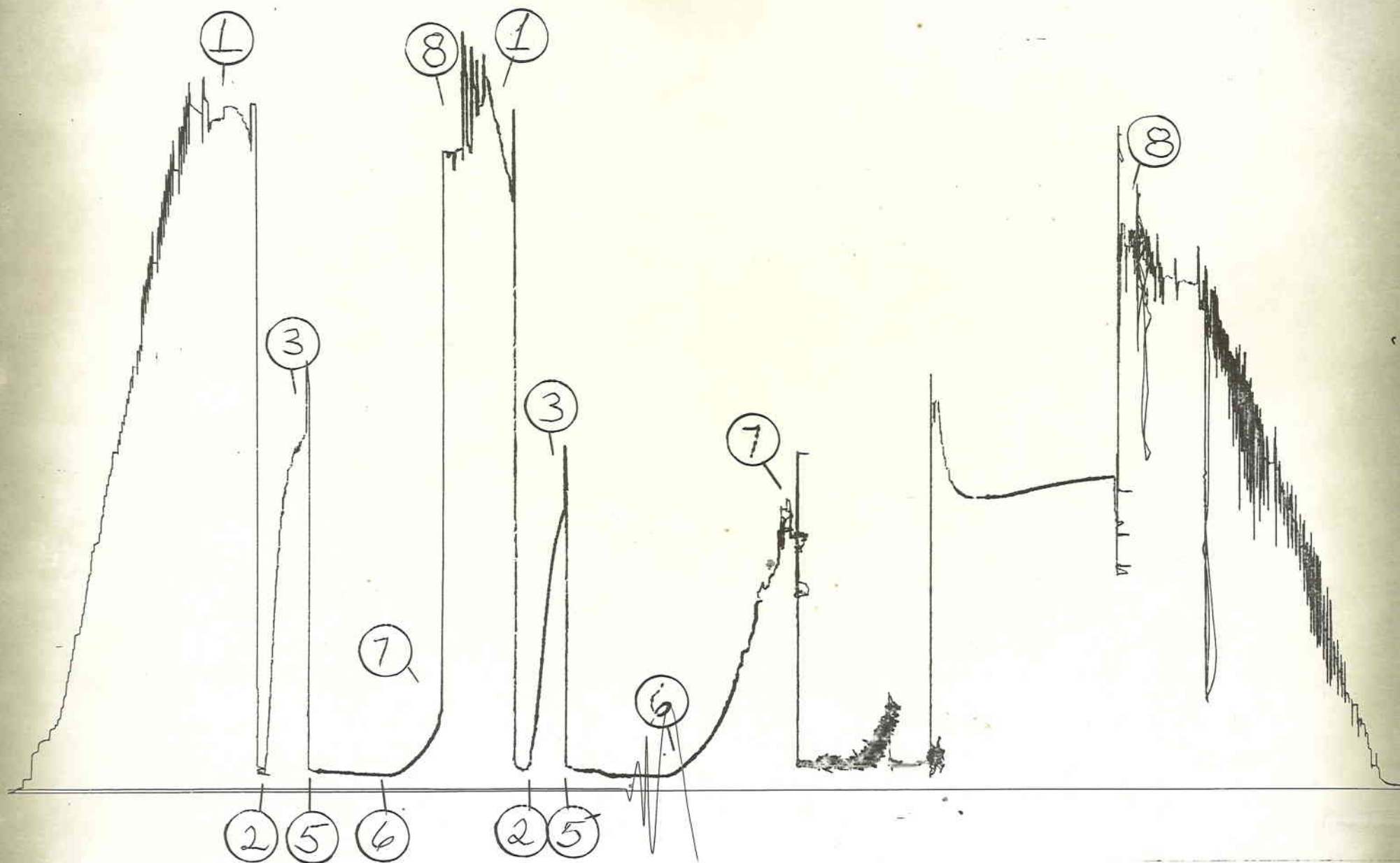
TEST DATA				GENERAL INFORMATION			
Test No. <u>One</u>		Lynes Test <u>One</u>		Company <u>The Anschutz Corp.</u>			
Formation <u>Castle Gate #1</u>		T.D. <u>5926</u> Ft.		Address <u>1110 Denver Club Building</u>			
Interval Tested <u>5611</u>		Ft. to <u>5631</u>		Denver, Colo. <u>80202</u>			
Interval Tested <u>20</u>		Ft. Net Pay Tested <u>20</u>					
Type of Test <u>Inflate Straddle</u>				Well Name <u>Anschutz State</u>			
Cushion		Amount		Well Number <u>1-A 913</u>			
Started in Hole at <u>11:30</u> Hrs.		Tool Open at <u>17:00</u> Hrs.		K.B. Elevation <u>7436</u> Sub-Sea Elevation <u>7424</u>			
Pre-Flow <u>5</u> Mins.		Initial Shut-in <u>30</u> Mins.		Area <u>Grand County</u> Province <u>Utah</u>			
2nd Flow		Second Shut-in		Company Rep. <u>W. Don Quigley</u>			
Final Flow <u>45</u> Mins.		Final Shut-in <u>45</u> Mins.		Tester <u>James Holmes</u>			
Remarks:				Contractor <u>Pease</u> Rig No. <u>5</u>			
Blow: <u>Very weak blow on preflow 1/8" water second flow open with very weak bubble and died.</u>				Ticket No. <u>72-571</u> Date <u>June 14/74</u>			
				Service Reports To:			
				<u>9 - distribution list</u>			
GAS BLOW MEASUREMENTS				MUD AND HOLE DATA			
Measured with <u>No gas</u>				Mud Type <u>Gel Chem resist 2.0 @ 70°</u>			
Time	Surface Choke	Reading Inches	Cubic Feet/Day	Weight <u>9</u> Viscosity <u>43</u> Water Loss <u>4.6</u>		Filter Cake <u>2/32</u> Bottom Hole Temperature <u>125°</u>	
				Drill Pipe Size <u>4 1/2</u> Weight <u>16.60</u>		Drill Collars <u>6"-5 5/8</u> I.D. <u>2.25</u> Feet Run <u>573</u>	
				Main Hole or Casing Size <u>8 3/4</u>		Rathole or Liner Size	
				Bottom Hole Choke Size <u>1</u>		No. of Feet	
				Surface Choke Size		Packer Rubber Size <u>7 7/8"</u>	
				REMARKS			
				Sampler and recovery split between test #1&2 by Company man going by amount of blow.			
RECOVERY				Shut-in pressures suggest low permeability within the interval tested.			
TOTAL FLUID RECOVERED <u>958</u> Ft. Consisting of:				Sampler recovery 65# P.S.I. 1000 cc gas drilling mud.			
<u>408</u> Ft. of Gas drilling mud							
<u>100</u> Ft. of Vapor gas in D.P.							
Ft. of							
Ft. of							
Test was/was not Reverse Circulated <u>Was not</u>				This was the first of two tests run on the same trip in the hole.			
Oil Recovery A.P.I. Water Specific Gravity							
Salinity <u>resist 2.2 @ 75°</u>							
PRESSURE READINGS							
Inside <u>X</u> Outside		Inside <u>Outside X</u>		Inside <u>Outside X</u>		Inside <u>Outside</u>	
Recorder No. <u>5155</u>		Recorder No. <u>7097</u>		Recorder No. <u>6081</u>		Recorder No.	
Capacity <u>5000</u>		Capacity <u>4000</u>		Capacity <u>72°-311°</u>		Capacity	
Depth <u>5581</u>		Depth <u>5621</u>		Depth <u>5621</u>		Depth	
NUMBER KEY:							
1 - INITIAL HYDROSTATIC		<u>2698</u>		<u>2697</u>		<u>118</u>	
2 - PRE-FLOW		<u>43</u>		<u>92</u>			
3 - INITIAL SHUT-IN		<u>1425</u>		<u>1425</u>			
4a - 2nd INITIAL FLOW							
4b - 2nd FINAL FLOW							
4c - 2nd SHUT-IN		<u>50</u>		<u>92</u>			
5 - 3rd INITIAL FLOW		<u>46</u>		<u>66</u>			
6 - FINAL FLOW		<u>275</u>		<u>266</u>			
7 - FINAL SHUT-IN		<u>2594</u>		<u>2568</u>			
8 - FINAL HYDROSTATIC							

The Anschutz Corp.
 Anschutz State 1-A 913
 Company
 Well Name and Description
 Test No.
 Date of Test

June 14/74

ANSCHUTZ STATE 1A-913

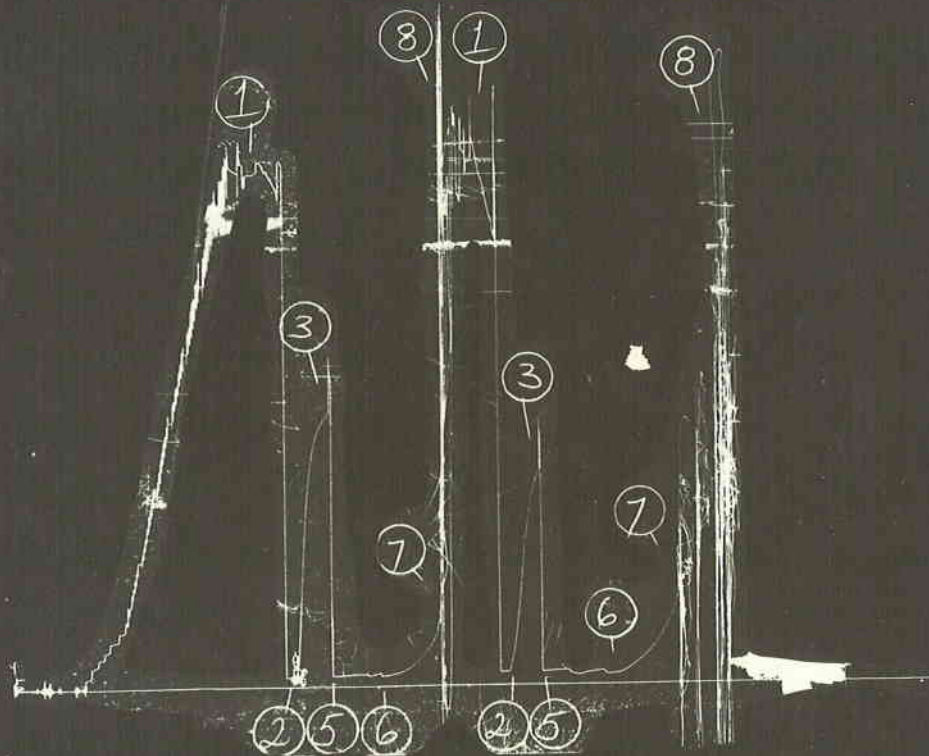
7097-1+2



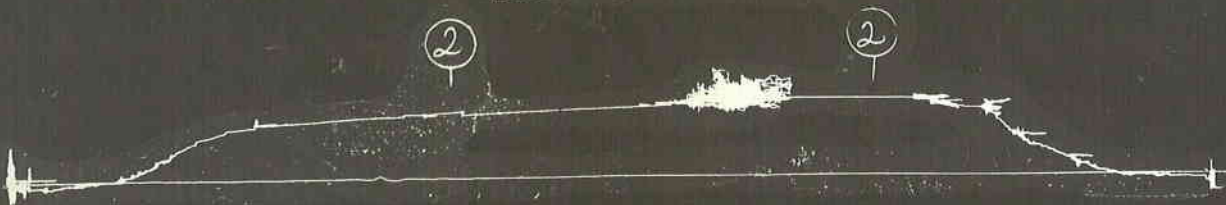
ANSCHUTZ STATE

1A-913

5155-1+2



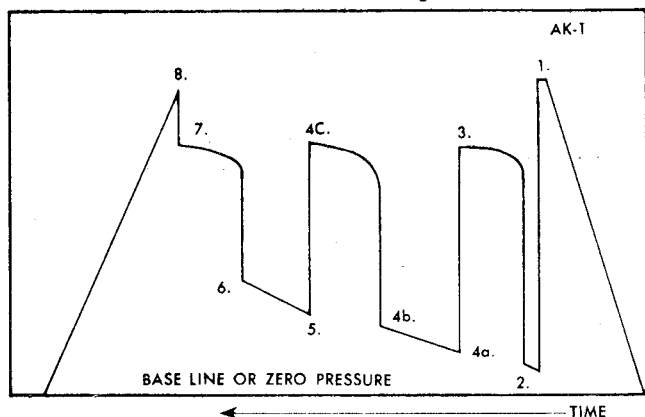
6081-1+2 TEMP.



GUIDE TO INTERPRETATION AND IDENTIFICATION OF LYNES DRILL STEM TEST PRESSURE CHARTS

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AK-1 recorders. Read from right to left.

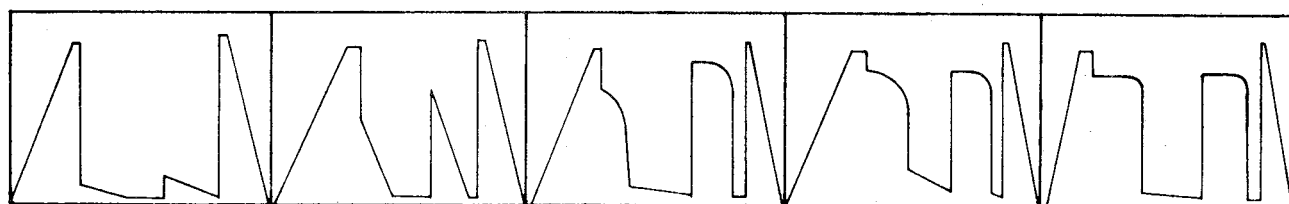


1. INITIAL HYDROSTATIC MUD PRESSURE
2. PRE-FLOW
3. INITIAL SHUT-IN
- 4a. 2nd INITIAL FLOW
- 4b. 2nd FINAL FLOW
- 4c. 2nd SHUT-IN
5. 3rd INITIAL FLOW
6. FINAL FLOW
7. FINAL SHUT-IN
8. FINAL HYDROSTATIC MUD PRESSURE

N.B. When only two shut-in and flow periods are run, 4a, 4b and 4c are omitted.

K-K-3 recorders. Read from left to right.

Typical charts for visual field analysis ranging from very low to high permeability.



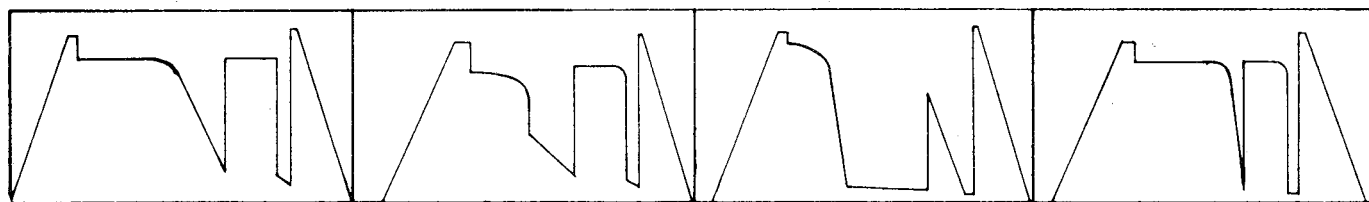
Very low permeability. Usually only mud recovered from interval tested. Virtually no permeability.

Slightly higher permeability. Again mud recovered.

Slightly higher permeability. Small recovery, less than 200' ft).

Average permeability. Final and initial shut-ins differ by 50 psi.

Average permeability. Strong damage effect. High shut-in pressure, low flow pressure.

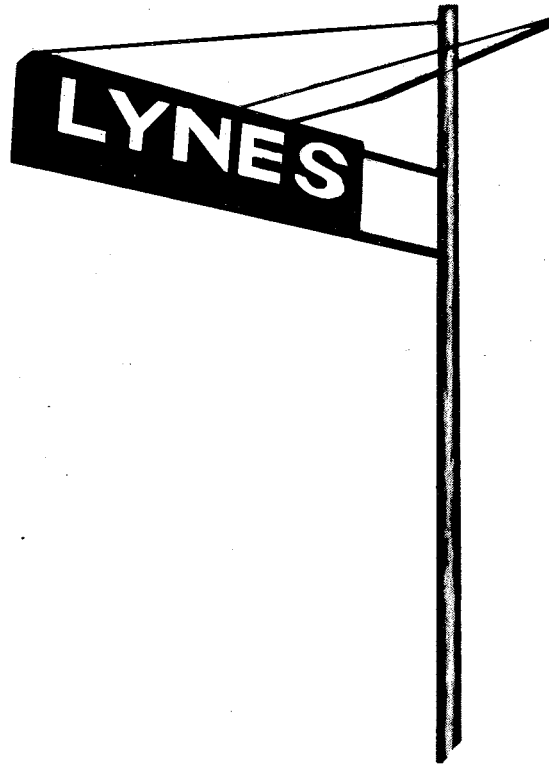


Excellent permeability where final flow final shut-in pressure.

High permeability where ISIP and FSIP are within 10 psi.

Deep well bore invasion or damage. Final shut-in higher than the initial shut-in.

Tight hole chamber tester. Permeability very difficult to interpret unless the recovery is less than chamber length. Flow pressure builds up rapidly if recovery is large, similar to a shut-in.



LYNES UNITED SERVICES LTD. 262-4501 CALGARY, ALBERTA

The Anschutz Corp.

Anschutz State 1-A 913

TWO

June 14, 15/74

Company

Well Name and Description

Test No.

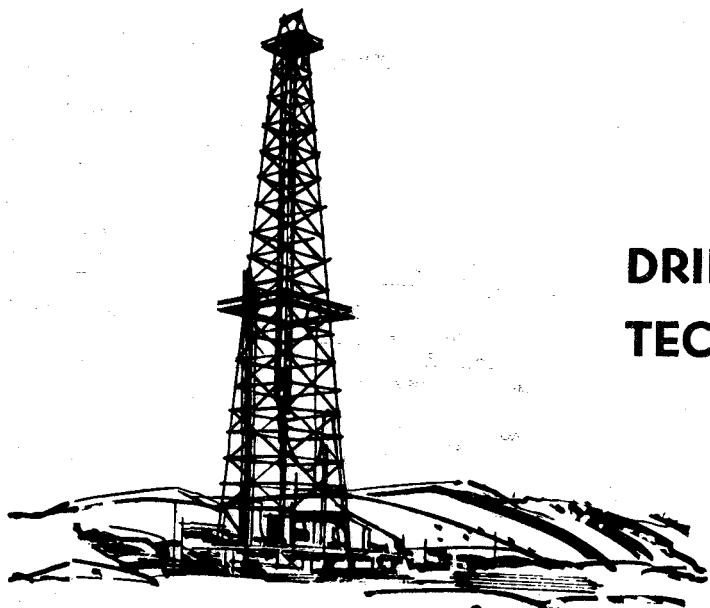
Date of Test

LYNES

BRIGHT NAME IN THE OIL PATCH

Inflatable and Conventional Packer Tools

DRILL STEM TEST TECHNICAL SERVICE REPORT



NOMENCLATURE (Definition of Symbols)

Q	= average production rate during test, bbls./day
Q_g	= measured gas production rate during test, MCF/day
k	= permeability, md
h	= net pay thickness, ft. (when unknown, test interval is chosen)
μ	= fluid viscosity, centipoise
Z	= compressibility factor
T_f	= reservoir temperature, ° Rankine
m	= slope of final SIP buildup plot, psig/cycle (psig ² /cycle for gas)
b	= approximate radius of investigation, feet
r_w	= wellbore radius, feet
t_o	= total flowing time, minutes
P_o	= Extrapolated maximum reservoir pressure, psig
P_f	= final flowing pressure, psig
$P.I.$	= productivity index, bbls./day/psi
$P.I._t$	= theoretical productivity index with damage removed, bbl./day/psi
$D.R.$	= damage ratio
$E.D.R.$	= estimated damage ratio
AOF	= absolute open flow potential, MCF/D
AOF_t	= theoretical absolute open flow if damage were removed
Z	= subsea depth
W	= water gradient based on salinity
H_w	= potentiometric surface

INTERPRETATION CALCULATIONS (OIL/WATER)	
AVERAGE PRODUCTION RATE DURING TEST $Q = 1440 \left(\frac{\text{drill collar capacity} \times \text{recovery} + \text{drill pipe capac.} \times \text{recovery}}{\text{initial flow time} + \text{final flow time}} \right)$ $= 1440 \left[\left(\frac{\quad}{\quad} \right) + \left(\frac{\quad}{\quad} \right) \right]$ $= 1440 \left(.0145 \text{ or } .0073 \right) \left(\frac{\quad}{\quad} \right)$ $= \quad \text{bbls./day}$	
FLUID PROPERTIES Estimated Bottom Hole Temperature ° API Gravity @ 60° F. ° Specific Gravity @ 60° F. ° Est. Viscosity cp	
TRANSMISSIBILITY $\frac{kh}{\mu} = \frac{162.6Q}{m} = \frac{162.6 \left(\frac{\quad}{\quad} \right)}{\quad} = \quad \text{md.-ft./cp}$	
IN SITU CAPACITY $kh = \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) = \quad \text{md.-ft.}$	
AVERAGE EFFECTIVE PERMEABILITY Estimated Pay Thickness Ft. Actual Pay Thickness Ft. $k = \left(\frac{\quad}{\quad} \right) = \quad \text{md.}$	
PRODUCTIVITY INDEX $PI = \frac{Q}{P_o - P_f} = \frac{\left(\frac{\quad}{\quad} \right)}{\left(\frac{\quad}{\quad} \right) - \left(\frac{\quad}{\quad} \right)} = \quad \text{bbl./day-psi}$	
DAMAGE RATIO $D.R. = 0.183 \frac{[P_o - P_f]}{m} = 0.183 \left[\left(\frac{\quad}{\quad} \right) - \left(\frac{\quad}{\quad} \right) \right] = \quad$	
PRODUCTIVITY INDEX WITH DAMAGE REMOVED $P.I._t = P.I. \times D.R. = \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) = \quad \text{bbl./day-psi}$	
APPROXIMATE RADIUS OF INVESTIGATION $b = \sqrt{k t_o} = \sqrt{\left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right)} = \quad \text{ft.}$	
Drawdown Factor = $\frac{L.S.I.P. - F.S.I.P.}{L.S.I.P.} \times 100 = \left(\frac{\quad}{\quad} - \frac{\quad}{\quad} \right) \times 100 = \quad \%$ (4% to 5% is considered serious or substantial)	
Potentiometric Surface = $H_w = Z + \frac{P_o}{W}$ $H_w = \quad + \left(\frac{\quad}{\quad} \right) = \quad \pm \quad \text{ft.}$	

INTERPRETATION CALCULATIONS (GAS)	
ESTIMATED GAS PROPERTIES R(T_d) = ° Gravity @ 60° F. ° Viscosity (Ras.) cp. Estimated Bottom Hole Temperature ° Compressibility Factor (Z)	
TRANSMISSIBILITY Measured D.S.T. Gas Rate = mcf/d. $\frac{kh}{\mu} = \frac{1637 Q_g Z T_f}{m} = \frac{1637 \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right)}{\quad} = \quad \frac{\text{md.-ft.}}{\text{cp.}}$	
IN SITU CAPACITY $kh = \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) = \quad \text{md.-ft.}$	
AVERAGE EFFECTIVE PERMEABILITY Estimated Pay Thickness Ft. Actual Pay Thickness Ft. $k = \left(\frac{\quad}{\quad} \right) = \quad \text{md.}$	
APPROXIMATE RADIUS OF INVESTIGATION $b = 0.02 \sqrt{k t_o P_o} = 0.02 \sqrt{\left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right)} = \quad \text{ft.}$	
ACTUAL CAPACITY $kh = \frac{3270 Q_g \mu Z T_f \log \left(\frac{b}{P_o^2 - P_f^2} \right)}{P_o^2 - P_f^2} = \frac{3270 \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) \log \left(\frac{\quad}{\quad} \right)}{\left(\frac{\quad}{\quad} \right) - \left(\frac{\quad}{\quad} \right)} = \quad \text{md.-ft.}$	
DAMAGE RATIO E.D.R. = $\frac{[P_o^2 - P_f^2]}{m (\log T_o + 2.65)}$ $D.R. = \frac{\text{In Situ Capacity}}{\text{Actual Capacity}} = \left(\frac{\quad}{\quad} \right) = \quad$ E.D.R. = $\frac{[P_o^2 - P_f^2]}{m (\log T_o + 2.65)}$	
ESTIMATED RANGE OF AOF POTENTIAL Max. AOF = $\frac{Q_g P_o^2}{P_o^2 - P_f^2} = \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) = \left(\frac{\quad}{\quad} \right) = \quad \text{MCF/D}$ Min. AOF = $\frac{Q_g P_o}{\sqrt{P_o^2 - P_f^2}} = \left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) = \left(\frac{\quad}{\quad} \right) = \quad \text{MCF/D}$	
ESTIMATED RANGE OF AOF POTENTIAL DAMAGE REMOVED Max. AOF _t = (Max. AOF) (D.R.) = $\left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) = \quad \text{MCF/D}$ Min. AOF _t = (Min. AOF) (D.R.) = $\left(\frac{\quad}{\quad} \right) \left(\frac{\quad}{\quad} \right) = \quad \text{MCF/D}$	
Drawdown Factor = $\frac{ISIP - FSIP}{ISIP} \times 100 = \left(\frac{\quad}{\quad} - \frac{\quad}{\quad} \right) \times 100 = \quad \%$ 4% to 5% is considered serious or substantial	
Potentiometric Surface = $H_w = Z + \frac{P_o}{W}$ $H_w = \quad + \left(\frac{\quad}{\quad} \right) = \quad \pm \quad \text{ft.}$	

LYNES UNITED SERVICES LTD.

TEST DATA				GENERAL INFORMATION			
Test No. Two		Lynes Test Two		Company The Anschutz Corp.			
Formation Castle Gate #3		T.D. 5726 Ft.		Address 1110 Denver Club Building			
Interval Tested 5695 Ft. to		5715 Ft.		Denver, Colo. 80202			
Interval Tested 20 Ft.		Net Pay Tested 20 Ft.					
Type of Test Inflate Straddle				Well Name Anschutz State			
Cushion		Amount		Ft.			
Started in Hole at		Hrs.		Tool Open at 20:08		Hrs.	
Pre-Flow 5 Mins.		Initial Shut-in 30 Mins.		K.B. Elevation 7436		Sub-Sea Elevation 7424	
2nd Flow		Mins.		Second Shut-in		Mins.	
Final Flow 60 Mins.		Final Shut-in 60 Mins.		Area Grand County		Province Utah	
Remarks:				Company Rep. W. Don Quigley			
				Tester James Holmes			
				Contractor Pease Rig No. 5			
Blow: Preflow open with very weak blow 1/8" water. Final flow open with very weak blow 1/8" water and died in 10 mins., came back to 1" water ended test, 1/2" water.				Ticket No. 72-572 Date June 14, 15/74			
GAS BLOW MEASUREMENTS				Service Reports To:			
				9 - above address			
Measured with				MUD AND HOLE DATA			
No gas to surface				Mud Type Gel Chem resist 2.0 @ 70°			
Time	Surface Choke	Reading Inches	Cubic Feet/Day	Weight 9	Viscosity 43	Water Loss 4.6	
				Filter Cake 2/32	Bottom Hole Temperature 125°		
				Drill Pipe Size 4 1/2"	Weight 16.60		
				Drill Collars 6 - 5 5/8" I.D. 2.25	Feet Run 573		
				Main Hole or Casing Size 8 3/4			
				Rathole or Liner Size	No. of Feet		
				Bottom Hole Choke Size 1"			
				Surface Choke Size			
				Packer Rubber Size 7 7/8"			
				REMARKS			
				Shut-in pressures suggest low permeability within the interval tested.			
				Went down hole 84' for this test, had trouble getting loose, pulled pipe in two, split hydraulic tool. Sampler reg. 65 P.S.I. 1100 cc gas, drilling mud.			
				This was the second of two tests run on the same trip in the hole.			
RECOVERY							
For tests 1 & 2							
TOTAL FLUID RECOVERED 958 Ft. Consisting of:							
550 Ft. of gas drilling mud							
200 Ft. of vapor gas							
Ft. of							
Ft. of							
Test was/was not Reverse Circulated Was not							
Oil Recovery A.P.I. Water Specific Gravity							
Salinity resist 2.2 @ 75°							
PRESSURE READINGS							
Inside X Outside		Inside X Outside X		Inside X Outside X		Inside X Outside	
Recorder No. 5155		Recorder No. 7097		Recorder No. 6081		Recorder No.	
Capacity 5000		Capacity 4000		Capacity 72°-311°		Capacity	
Depth 5665		Depth 5705		Depth 5705		Depth	
NUMBER KEY:							
1 - INITIAL HYDROSTATIC		2427		2465			
2 - PRE-FLOW		66		108		125	
3 - INITIAL SHUT-IN		1130		1119			
4a - 2nd INITIAL FLOW							
4b - 2nd FINAL FLOW							
4c - 2nd SHUT-IN							
5 - 3rd INITIAL FLOW		64		100			
6 - FINAL FLOW		52		59			
7 - FINAL SHUT-IN		421 (false)		1028 (false)			
8 - FINAL HYDROSTATIC				2174			

The Anschutz Corp.

Anschutz State 1-A 913

Two

June 14, 15/74

Date of Test

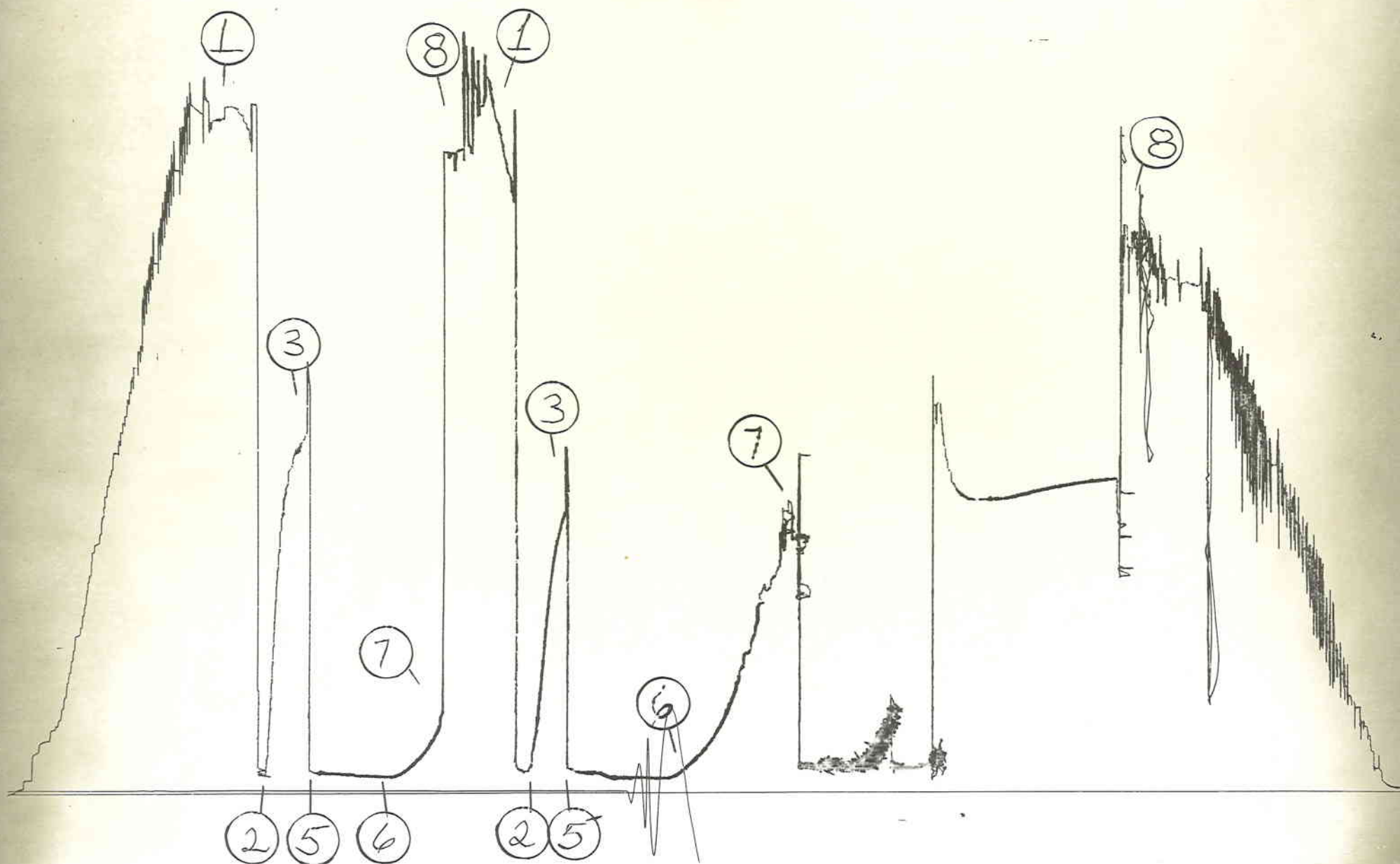
Test No.

Well Name and Description

Company

ANSCHUTZ STATE 1A-913

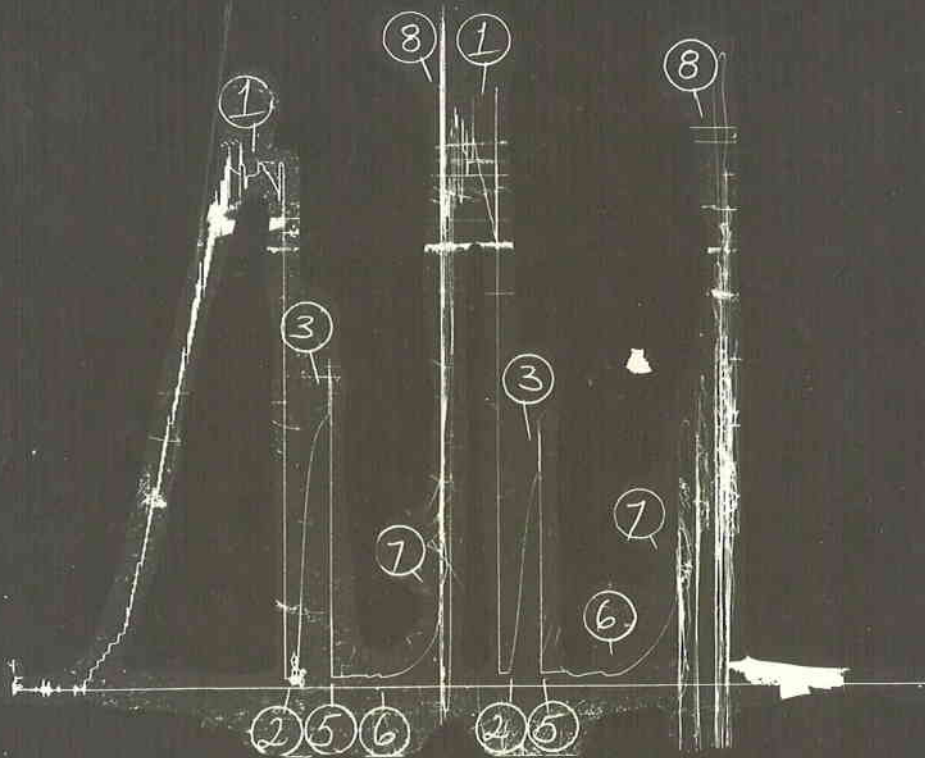
7097-1+2



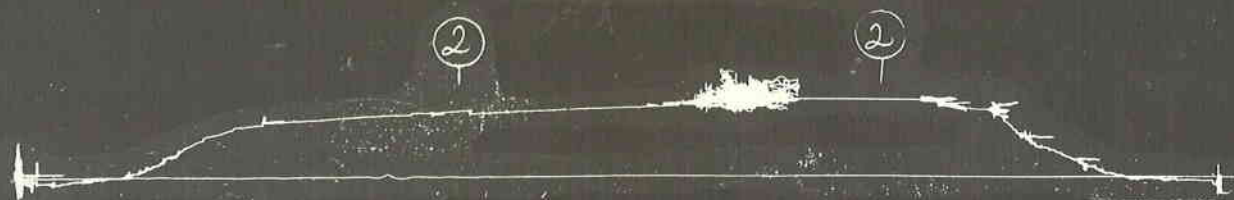
ANSCHUTZ STATE

1A - 913

5155-1+2



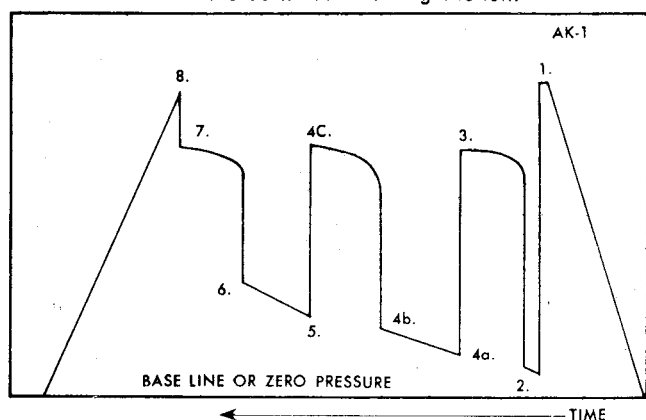
6081-1+2 TEMP.



GUIDE TO INTERPRETATION AND IDENTIFICATION OF LYNES DRILL STEM TEST PRESSURE CHARTS

In making any interpretation, our employees will give Customer the benefit of their best judgment as to the correct interpretation. Nevertheless, since all interpretations are opinions based on inferences from electrical, mechanical or other measurements, we cannot, and do not, guarantee the accuracy or correctness of any interpretations, and we shall not be liable or responsible, except in the case of gross or wilful negligence on our part, for any loss, costs, damages or expenses incurred or sustained by Customer resulting from any interpretation made by any of our agents or employees.

AK-1 recorders. Read from right to left.

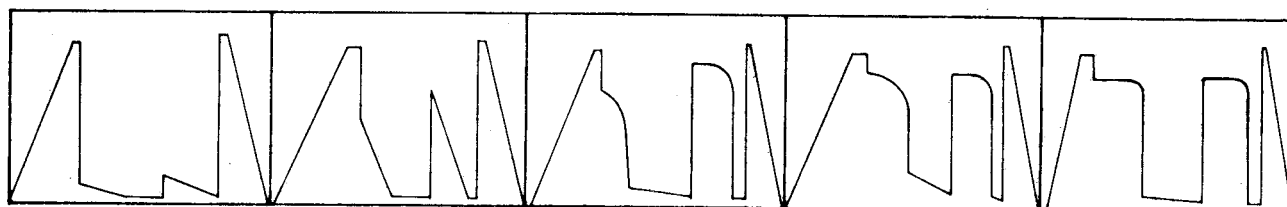


1. INITIAL HYDROSTATIC MUD PRESSURE
2. PRE-FLOW
3. INITIAL SHUT-IN
- 4a. 2nd INITIAL FLOW
- 4b. 2nd FINAL FLOW
- 4c. 2nd SHUT-IN
5. 3rd INITIAL FLOW
6. FINAL FLOW
7. FINAL SHUT-IN
8. FINAL HYDROSTATIC MUD PRESSURE

N.B. When only two shut-in and flow periods are run, 4a, 4b and 4c are omitted.

K-K-3 recorders. Read from left to right.

Typical charts for visual field analysis ranging from very low to high permeability.



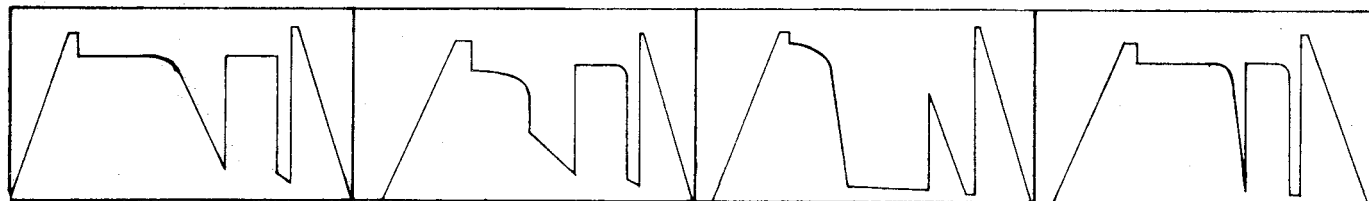
Very low permeability. Usually only mud recovered from interval tested. Virtually no permeability.

Slightly higher permeability. Again mud recovered.

Slightly higher permeability. Small recovery, less than 200' ft).

Average permeability. Final and initial shut-ins differ by 50 psi.

Average permeability. Strong damage effect. High shut-in pressure, low flow pressure.

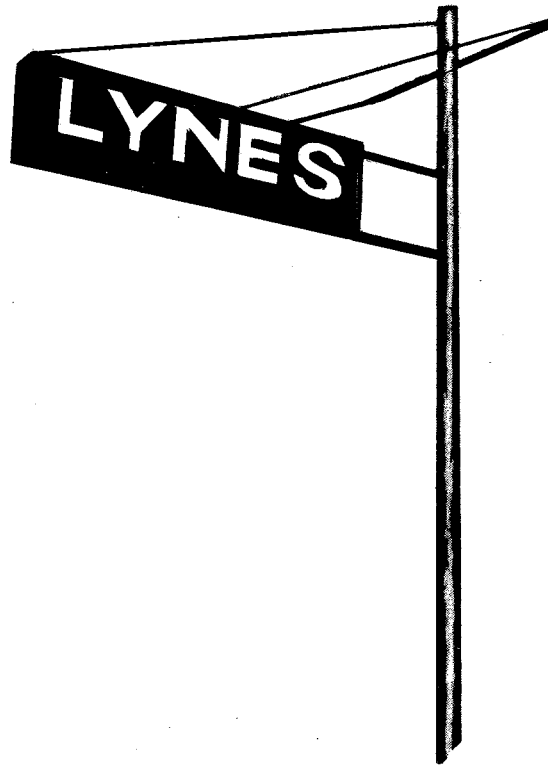


Excellent permeability where final flow final shut-in pressure.

High permeability where ISIP and FSIP are within 10 psi.

Deep well bore invasion or damage. Final shut-in higher than the initial shut-in.

Tight hole chamber tester. Permeability very difficult to interpret unless the recovery is less than chamber length. Flow pressure builds up rapidly if recovery is large, similar to a shut-in.



LYNES UNITED SERVICES LTD. 262-4501 CALGARY, ALBERTA

1588 WEST NORTH TEMPLE
SALT LAKE CITY, UTAH 84116
328-5771

State Lease No. _____
Federal Lease No. _____
Indian Lease No. _____
Fee & Pat. _____

REPORT OF OPERATIONS AND WELL STATUS REPORT

DATE UTAH COUNTY GRAND FIELD/LEASE STATE 913 NO. 1-A
Unnamed Field; Meadow Creek Development

The following is a correct report of operations and production (including drilling and producing wells) for the month of:
JULY 19 74

Agent's Address 1110 Denver Club Bldg.
518 17th Street
Denver, Colo. 80202

Phone No.

Company THE ANSCHUTZ CORPORATION
Signed Richi P. McConnell
Title Production Secretary

Sec. and ¼ of ¼	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
										Drilling comp. 7-9-74, TD 10,050. Set 4½" liner at 10,020', MICT 7-25-74.

GAS (HAF)

Contracted	0
Leased	0
Off Lease	0

OIL or CONDENSATE: (To be reported in Barrels)

On hand at beginning of month	0
Produced during month	0
Sold during month	0
Unavoidably lost	0
Reason:	---
On hand at end of month	

July 23, 1974

The Anschutz Corporation
1110 Denver Club Building
Denver, Colorado 80202

Re: Well No's:
Anschutz State 913-1A
Sec. 9, T. 16 S, R. 22 E,
State 429-#2
Sec. 6, T. 16 S, R. 22 E,
State 428-#1
Sec. 5, T. 16 S, R. 22 E,
Grand County, Utah

Gentlemen:

Our records indicate that you have not filed a "Monthly Report of Operations" for the months of May thru June, 1974, on the subject wells.

Rule C-22(1), General Rules and Regulations and Rules of Practice and Procedure requires that said reports be filed on or before the sixteenth (16) day of the succeeding month. This report may be filed on Form OGC-1b (U.S. Geological Survey 9-331) "Sundry Notices and Reports on Wells" or on company forms containing substantially the same information. We are enclosing forms for your convenience.

Your prompt attention to the above will be greatly appreciated.

Very truly yours,

DIVISION OF OIL & GAS CONSERVATION

SCHEREE WILCOX
EXECUTIVE SECRETARY



1110 DENVER CLUB BUILDING
518 SEVENTEENTH STREET
DENVER, COLORADO 80202
TELEPHONE 303-573-5665

July 24, 1974

Mr. Cleon Feight
Utah Division Oil & Gas
1588 West, North Temple
Salt Lake City, Utah 84116

B. J. Perry
Mono Power Company
Box 800
Rosemead, California 91770

Mr. John Wroble
Pacific Transmission Supply
245 Market Street
San Francisco, California

Mr. Dee Beardsly
P.O. Box 3093
Casper, Wyoming 82601

Chorney Oil Company
401 Lincoln Tower Bldg.
Denver, Colorado 80203


Re: Anschutz #1-A State 913
SE $\frac{1}{4}$ Sec. 9-16S-22E
Grand County, Utah

Gentlemen:

Transmitted herewith are the DST-Reports on the captioned well.

Yours very truly,

THE ANSCHUTZ CORPORATION


Robert M. Wakefield
Geologist

RMW:kcw
Enc.

STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS CONSERVATION

1588 WEST NORTH TEMPLE
SALT LAKE CITY, UTAH 84116
328-5771

State Lease No. _____
Federal Lease No. _____
Indian Lease No. _____
Fee & Pat. _____

REPORT OF OPERATIONS AND WELL STATUS REPORT

STATE UTAH COUNTY GRAND FIELD/LEASE STATE 913 NO. 1-A
The following is a correct report of operations and production (including drilling and producing wells) for the month of:
August, 19 74
Unnamed Field; Meadow Creek Prospect

Agent's Address 1110 Denver Club Bld. Company THE ANSCHUTZ CORPORATION
518 17th Street Signed Richard P. McConnell
Denver, Colo. 80202 Title Production Secretary
Phone No. _____

Sec. and 1/4	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
										Perforated Cedar Mountain 9580-95. Acidized. No gas. Set WLBP at 9355'.
										Perforated Dakota 9450-65'. Acidized and sandfrac'd. MOCT 8-18-74. F 887 Mcfd at 125 psig 8-26-74.

GAS, (MCF) _____
Produced _____
Off Lease _____

OIL or CONDENSATE: (To be reported in Barrels)
On hand at beginning of month _____
Produced during month _____
Sold during month _____
Unavoidably lost _____
Reason: _____
On hand at end of month _____

JOHN G. KEPHART & CO.
GRAND JUNCTION LABORATORIES

435 NORTH AVENUE

PHONE 242-7618

GRAND JUNCTION, COLORADO 81501

ANALYTICAL REPORT

Received from: Anschutz Corp.

Customer No. #2 Laboratory No. 847 Sample Water

Date Received Aug. 12, 1974 Date Reported Aug. 15, 1974

State 913-1A Grand Co. Utah-Dakota.
Perforations 9450-65

Sample taken by Swab after Acid job.

Sodium(Na)	5240 mg/L	227 me/L
Calcium(Ca)	3750 "	308 "
Magnesium(Mg)	1520 "	125 "
Chloride(Cl)	15383 "	433 "
Sulfate(SO ₄)	256 "	5.3 "
Phenol Alkalinity(CO ₂)	0.00	
Total Alkalinity(HCO ₃)	0.00	
Iron(Fe)	6550 mg/L	234 me/L
Total Dissolved Solids	44574 "	
Solids after Ignition	33612 "	
Acidity	10148 "	

Specific Gravity 60-70°F 1.0375
Resistivity 68°F 0.22 Ohms-Meter
Ph 4.2

By

J. Kephart

DRILLING HISTORY
AND
GEOLOGIC REPORT
ON
ANSCHUTZ #1-A STATE 913 WELL
GRAND COUNTY, UTAH

By

W. Don Quigley
Consulting Geologist
Salt Lake City, Utah

August 27, 1974

DRILLING HISTORY
OF
ANSCHUTZ #1-A STATE 913 WELL
GRAND COUNTY, UTAH

Operator: The Anschutz Corp., Inc.
1110 Denver Club Bldg., Denver, Colo. 80202

Contractor: Willard Pease Drlg. Co.
P.O. Box 548, Grand Junction, Colo. 81501

Location: Center SE $\frac{1}{4}$, Sec. 9, T 16S., R 22E., SLM., Grand
County, Utah (1320' fr. E-line and 1320' fr.
S-line)

Elevations: 7424' grd.; 7436' K.B.

Surface Casing: 307' of 9 $\frac{5}{8}$ ", 32#, J-55 casing and cemented
w/270 sks cement.

Intermediate Casing: 5926' of 7", 23.00#, J-55 casing and
cemented w/150 sks cement.

Spudded in: May 21, 1974

Finished Drilling: July 6, 1974

Total Depth: 10,050'

Production Zones: Dakota 9438' to 9478'

Completed: August 23, 1974 and tested approx. 1,000 MCF on
 $\frac{1}{4}$ inch choke with flowing pressure of 140#, after
fracture treatment.

Drilling History

May 13-17: Moving in rig and rigging up.

May 18: Finished rigging-up and began drilling rat hole.

May 19: Finished drilling rat hole and drilled mouse hole.

May 20: Nippled-up, rigged blewie line.

May 21: Drilled 0'-102' (102'). Began drilling 12 $\frac{1}{4}$ "
surface hole with mud.

- May 22: Drilled 102' to 308' (206'). Finished drilling surface hole. Ran 10 jts of 9 $\frac{5}{8}$ ", 32#, J-55 casing. Landed casing at 307' and cemented with 270 sks cement with returns to surface. Plug down at 1 A.M. - May 23. Surveys at 180' - 1 $\frac{1}{2}$ °; at 240' - 2 $\frac{3}{4}$ °; at 300' - 3°.
- May 23: Cementing casing - Plug down at 1 A.M. Waiting on cement to set. Nipped up for air drilling.
- May 24: Drilled 308' to 615' (307'). Drilled ahead with 8 $\frac{3}{4}$ " bit, using air for circulation. Surveys at 360' - 2 $\frac{3}{4}$ °; at 410' - 3 $\frac{1}{4}$ °; at 470' - 2 $\frac{3}{4}$ °; at 545' - 2 $\frac{3}{4}$ °. Drilled at rate of 10 to 20 ft./hr. in Green River shales and sandstone. Survey at 600' - 3°.
- May 25: Drilled 615' to 1080' (465'). Made rd-trip at 824' for Bit #4. Bit #3 (HTC-OWV-J) made 516' (308-824') in 30 hrs. Drilled at avg. rate of 17 ft/hr. Surveys at 670' - 2 $\frac{1}{2}$ °; at 700' - 2 $\frac{1}{2}$ °; at 855' - 1 $\frac{3}{4}$ °. Encountered water at 639' and began mist-drilling with soap-water-air at 645'.
- May 26: Drilled 1080' to 1630' (550'). Drilling at avg. rate of about 25 ft/hr. in Green River shales, sandstones, and siltstone. Surveys at 1120' - 1 $\frac{1}{2}$ °; at 1220' - 1 $\frac{1}{2}$ °; at 1320' - 1 $\frac{1}{2}$ °; at 1400' - 1 $\frac{1}{2}$ °; at 1510' - 1 $\frac{1}{2}$ °; at 1580' - 1 $\frac{3}{4}$ °.
- May 27: Drilled 1630' to 2035' (405'). Made rd-trip at 1767' for Bit #5. Bit #4 (Smith 47JS Rerun) made 943' (824'-1767') in 44 hrs. Drilled at avg. rate of 21 $\frac{1}{2}$ ft/hr. Surveys at 1670' - 1 $\frac{1}{2}$ °; at 1800' - 1 $\frac{3}{4}$ °; at 1920' - 1 $\frac{1}{2}$ °. Estimate top of Wasatch was at 1780' according to the samples.
- May 28: Drilled 2035' to 2471' (436'). Surveys at 2040' - 1 $\frac{3}{4}$ °; at 2160' - 1 $\frac{3}{4}$ °; at 2296' - 1 $\frac{1}{2}$ °; at 2450' - 1 $\frac{3}{4}$ °. Drilling at avg. rate of 20 ft/hr. in red siltstone, sandstone, and shale.

- May 29: Drilled 2471' to 2866' (395'). Surveys at 2600' - $1\frac{3}{4}^{\circ}$; at 2800' - 1° . Drilling at about 20 ft/hr. rate.
- May 30: Drilled 2866' to 3000' (134'). Made rd-trip at 2963' for Bit #6. Bit #5 (Smith - 47JS) made 1196' (1767'-2963') in 66 hrs. Drilled at avg. rate of 18 ft/hr. Hole began caving and getting tight at 2902'. Encountered several bridges on way in hole, and had 570' of fill in bottom of hole; so mudded-up and circulated hole.
- May 31: Drilled 3000' to 3230' (230'). Drilling ahead with mud at avg. rate of 10 to 12 ft/hr. Survey at 3130' was $3\frac{3}{4}^{\circ}$. Made rd-trip at 3129' for Bit #7. Bit #6 (Reed-Y13-J) made 166' (2963'-3129') in $14\frac{1}{2}$ hrs. Drilled at avg. rate of 12 ft/hr. Estimate top of Mesaverde at about 3160' from samples. Had several bridges going back in hole and had to ream 90 ft. back to bottom.
- June 1: Drilled 3230' to 3400' (170'). Survey at 3310' was $3\frac{3}{4}^{\circ}$. Made rd-trip at 3315' for Bit #8. Bit #7 (HTC-OSC-J) made 186' (3129'-3315') in $14\frac{1}{2}$ hrs. Drilled at avg. rate of 13 ft/hr. Reamed 20 ft. back to bottom.
- June 2: Drilled 3400' to 3777' (377'). Survey at 3600' was $1\frac{1}{2}^{\circ}$. Had tight hole on connection at 3381', so made a short-trip to clean hole and remove tight spots. Obtained no samples from 3720'-3780' due to circulation problems. Mixing loss-circulation material.
- June 3: Drilled 3777' to 4083' (306'). Survey at 3957' was $1\frac{1}{2}^{\circ}$. Made short trip at 3918' to clean hole and dump shale pit. (Pulled 8 stands.)
- June 4: Drilled 4083' to 4277' (194'). Survey at 4110' was 1° . Lost circulation at 4183'. Had to

mix mud and loss-circulation material for 2 hrs. Recovered returns. (Lost about 200 bbls of mud).

- June 5: Drilled 4277' to 4475' (198'). Survey at 4350' was 1°. Made rd-trip at 4355' for Bit #9. Bit #8 (Smith-F3) made 1040' (3315' to 4355') in 80½ hrs. Drilled at avg. rate of 13 ft/hr. in Mesaverde sandstone, shale, and siltstone.
- June 6: Drilled 4475' to 4752' (277'). Drilling at avg. rate of 12 ft/hr. Survey at 4710' was 1°.
- June 7: Drilled 4752' to 5023' (271'). Made short trip at 4843' to clean hole and dump shale pit. (Pulled 7 stands). Survey at 5000' was 1°.
- June 8: Drilled 5023' to 5330' (307'). Made short trip at 5127' to check hole. (Pulled 7 stands).
- June 9: Drilled 5330' to 5541' (211'). Survey at 5375' was 1½°. Estimate top of Buck Tongue member of Mancos at 5380' or 5390', due to dark gray silty shale and siltstone and varicolored shale and siltstone. Made rd-trip at 5390' for Bit #10. Bit #9 (Reed-F52) made 1035' (4355' to 5390') in 81 hrs. Drilled at avg. rate of about 13 ft/hr.
- June 10: Drilled 5541' to 5740' (199'). Estimate top of Castlegate sand at 5610' to 5620'. Sand is light grey to white, fine grained, sub-rd'd grains with scattered blue fluorescence. Had good sand with fluorescence and good cut to 5730', with a shale interval from 5650' to 5680'. Decided to test sands after the casing point is reached.
- June 11: Drilled 5740' to 5820' (80'). Made rd-trip at 5769' for Bit #11. Bit #10 (HTC-J33) made 379' (5390' to 5769') in 43½ hrs. Drilled at avg. rate of about 9 ft/hr. Survey at 5800'

was $1\frac{1}{2}^{\circ}$. Estimate base of Castlegate at about 5720', but continued to hit sands in Mancos below. Line on Totco broke so had to come out of hole.

June 12:

Drilled 5820' to 5926' (106'). Went back in hole with Bit #11. Drilled to 5926' and decided that most of the upper Mancos sands had been penetrated and were therefore deep enough to set intermediate casing. Circulated hole for 2 hrs. for logging. Bit #11 (Smith-F5) made 157 ft. (5769' to 5926') in 21 hrs. Drilled at avg. rate of about 8 ft/hr.

June 13:

Waiting on Schlumberger to log hole. Ran I E S electric log of hole. Called testers. Waiting on Lynes tester to come from Casper.

June 14:

Went in hole at 3 A.M. to circulate and condition hole for DST #1. Picked up test tool (Lynes inflatable packers) and went in hole to straddle test upper sand of Castlegate member. Ran DST #1 and results as follows:

Interval: 5611' to 5631' (20')

Init. flow: 5 min.

Init. shut-in: 30 min.

Final flow: 45 min.

Final shut-in: 45 min.

Blow: Weak blow immediate, dead in 10 min.
($\frac{1}{4}$ in. in water).

Rec.: 408' of gas cut drlg. mud and 100 ft. of gas in collars.

M.F.E. Tool: 65# pressure; 0.1 cu. ft. of gas; 1000 cc. of gas cut mud.

Pressures:	I H P	-	2711#	F H P	-	2678#
	I F P	-	49#	F F P	-	49#
	I S I P	-	1391#	F S I P	-	213#
	B H T	=	125°			(& inc.)

Decided to test lower sand of Castlegate so pulled packers loose and reset at 5695' to 5715' for DST #2 as follows:

Interval: 5695' to 5715' (20')

Init. flow: 15 min.

Init. shut-in: 30 min.

Final flow: 60 min.

Final shut-in: 60 min.

Blow: Weak blow immediate - dead in 15 min.; began to blow again in 30 min. and continued weak until end of test.

Note: Packers stuck. Worked pipe and jarred on it for 1½ hrs. Pulled 250,000# and pipe broke in two at 551' below surface. Ran in over-shot and jarred packers loose. Came out of hole.

Rec.: 550' of gas cut drlg. mud; and 200 ft. of gas in drill collars.

M.F.E. Tool: 65# pressure; 0.2 cu. ft. of gas; 1100 cc. of gas cut mud.

Pressures:	I H P - 2678#	F H P - 2093#
	I F P - 49#	F F P - 81# to 65#
	I S I P - 1090#	F S I P - 1006#
	B H T = 125°	

June 15: Went back in hole to circulate and condition to run intermediate casing. Laid down drill pipe and drill collars. Began running 7" casing.

June 16: Ran 147 jts. of 7", J-55, 23#; and landed at 5925'. Cemented casing with 150 sacks of cement. Plug down at 8:30 A.M. Waiting on cement. Nippled up to drill ahead with air. Began picking up 4½" drill collars and 3½" drill pipe.

June 17: Drilled 5926' to 6093' (167'). Finished picking up drill string. Blew casing dry and drilled out plug. Began drilling ahead with 6⅞" bit below casing, and using air for circulation.

Drilled a siltstone, and silty shale section from 5930' to 6000' which had oil stain, saturation, fluorescence and good oil cut (lt. blue fluor.) Brown oil in cuttings. Survey at 6020' was $1\frac{1}{2}^{\circ}$.

- June 18: Drilled 6093' to 6460' (367'). Surveys at 6140' was $1\frac{3}{4}^{\circ}$; at 6260' was $2\frac{1}{2}^{\circ}$; at 6365' was $2\frac{1}{2}^{\circ}$; at 6450' was $2\frac{1}{2}^{\circ}$. Made rd-trip at 6390' for Bit #13. Bit #12 (HTC-OWV) made 464' (5926' to 6390') in $14\frac{3}{4}$ hrs. Drilled at avg. rate of 31 ft/hr. Picked up hammer drill and went back in hole with Bit #13 and hammer drill.
- June 19: Drilled 6460' to 6961' (501'). Surveys at 6540' was $1\frac{3}{4}^{\circ}$; at 6665' was $2\frac{1}{2}^{\circ}$; at 6765' was $2\frac{3}{4}^{\circ}$; at 6870' was 3° . Had periodic oil shows in cuttings. Could be new zones; or seepage from upper zone at 5930' to 6000'; or could be from diesel and oil mixture put down drill pipe for lubrication of hammer drill.
- June 20: Drilled 6961' to 7437' (476'). Surveys at 6990' was $2\frac{1}{2}^{\circ}$; at 7116' was $2\frac{1}{2}^{\circ}$; at 7230' was $2\frac{1}{2}^{\circ}$; at 7350' was $2\frac{1}{2}^{\circ}$. Made rd-trip at 7055' for Bit #14. Bit #13 (Reed-F73) made 665' (6390' to 7055') in 28 hrs. Drilled at avg. rate of about 25 ft/hr. Still getting oil shows in Mancos. (Must be lubricant from hammer drill.)
- June 21: Drilled 7437' to 8040' (603'). Surveys at 7480' was $2\frac{3}{4}^{\circ}$; at 7600' was $2\frac{1}{2}^{\circ}$; at 7820' was 2° ; at 8015' was 2° . Dusting good. Still getting oil shows in cuttings.
- June 22: Drilled 8040' to 8621' (581'). Surveys at 8320' was $1\frac{1}{4}^{\circ}$. Drilling at rate of 60 ft/hr.

Made rd-trip at 8276' for Bit #15. Bit #14 (Smith-F5) made 1221' (7055' to 8276') in 38 hrs. Drilled at avg. rate of 32 ft/hr. Drilled a v.f.g. silty, dirty, sand at 8580' to 8610' which was thoroughly oil saturated - looks like new oil - good cut and fluor.

June 23: Drilled 8621' to 9186' (565'). Drilling rate decreased abruptly at 8560' (from 60 ft/hr. to 25 ft/hr.). No apparent decrease in weight on bit. (Hammer drill may have quit working.) Could also be due to formation change to a gray, calcareous, silty shale which could be top of Carlisle section. Made rd-trip at 9186' for Bit #16. Bit #15 (HTC-J33) made 910' (8276' to 9186') in 38½ hrs. Drilled at avg. rate of 23 ft/hr.

June 24: Drilled 9186' to 9534' (348'). Laid down hammer drill on trip at 9186'. Hit top of Dakota sand at 9440'. Had first gas flare at 9488' - 10 ft. flare and intermittent puffs for a sec. at a time. Had a gas flare (15 ft. flare for 3-5 secs.) on connection at 9528'. Shut air down for 30 minutes and gas burned with 20 ft. flare for about 15 secs. when air was started up again.

June 25: Drilled 9534' to 9694' (160'). Dust returns quit at 9694' but air pressure did not rise. Pulled drill string out to bottom of intermediate casing at 5925'. Had continuous gas flare 7 to 10 ft. flare out 7" blewie line. Shut pipe rams to test gas volume out 2" flow line; but rams wouldn't close tightly. Took rams out and cleaned dust and cuttings out, but rams still wouldn't close completely. So came out of hole with drill pipe and closed blind rams to shut-off gas; and then tested flow thru 2" flow line and 1/8" orifice choke.

Test results were as follows:

3 min.	-	3 lbs. pressure	-	4.84 M.C.F.
15 min.	-	5 lbs.	-	6.39 M.C.F.
30 min.	-	8 lbs.	-	8.30 M.C.F.
45 min.	-	10 lbs.	-	9.45 M.C.F.
60 min.	-	12.5 lbs.	-	10.75 M.C.F.
75 min.	-	14 lbs.	-	11.60 M.C.F.
90 min.	-	17 lbs.	-	13.10 M.C.F.
105 min.	-	19 lbs.	-	14.00 M.C.F.

A thick f.g. to m.g. sand at the base of Cedar Mountain at 9570' to 9610' had additional gas and a connection at 9582' has a 20 ft. gas flare for 15-18 secs. Top of Cedar Mt. formation is about 9540'. Decided to mud-up rather than mist-drill; so began mixing mud and filled hole with mud. (Took 375 bbl. of mud to fill hole.) Started in hole with drill pipe and Bit #17. Bit #16 (HTC-J-33) made 508' (9186' - 9694') in 23½ hrs. Drilled at avg. rate of 22 ft/hr. Estimate top of Morrison formation at about 9610' due to thick bentonite bed at this point and to the red, green, and grey bentonitic shale below the bentonite.

- June 26: Drilled 9694' to 9724' (30'). Finished going in hole and circulated hole at intervals. Had to drill 60 ft. of fill at bottom of hole. Began drilling ahead at 4:30 P.M. at rate of about 4 to 6 ft/hr.
- June 27: Drilled 9724' to 9764' (40'). Made rd-trip at 9730' for Bit # 18. Bit #17 (HTC-J33-Rerun) made 36 ft. (9694' to 9730') in 10½ hrs. Drilled at avg. rate of 3½ ft/hr. Had to ream 20 ft. back to bottom.
- June 28: Drilled 9764' to 9797' (33'). Made rd-trip at 9764' for Bit #19. Bit #18 (HTC-OWV) made

34 ft. (9730' to 9764') in 10½ hrs. Drilled at avg. rate of 3 ft/hr. Had to ream 15 ft. back to bottom. Drilling in varicolored siltstone, shale, and thin quartzitic sandstone beds. Made rd-trip at 9797' for Bit #20. Bit #19 (HTC-W7) made 33 ft. (9764' to 9797') in 10 hrs. Drilled at avg. rate of 3 ft/hr.

June 29: Drilled 9797' to 9852' (55'). Had to ream 10 ft. back to bottom. Drilled a good friable sandstone at 9810' to 9830'. Had slight spotted yellow fluor. and black residual oil specks. Decided to test this sand, so circulated hole for 11 hours waiting on tester.

June 30: Came out of hole for DST #3. Tester arrived at 10 A.M. Went in hole with test tool (Lynes conventional test tool) and ran DST #3.

Interval: 9812' to 9852' (40')

Init. flow: 3 min.

Init. shut-in: 45 min.

Final flow: 75 min.

Final shut-in: 90 min.

Blow: Strong blow immediate gradually decreasing to end of test.

Rec.: 3800 ft. of gas in drill pipe and 330' of slightly gas cut drilling mud.

M.F.E. Tool: 110# pressure; 1900 cc. of gas; and 800 cc. of gas cut mud.

Pressures:	I H P - 4591#	F H P - 4564#
	I F P - 102#	F F P - 102#-204#
	I S I P - 790#	F S I P - 841#
	(& bldg.)	(& increasing)

Bit #20 (Smith-F5) made 55 ft. (9797' to 9852') in 17 hrs. Drilled at avg. rate of 3 ft/hr.

- July 1: Drilled 9852' to 9880' (28'). Made rd-trip at 9880' for Bit #22. Bit #21 (HTC-W7) made 28 ft. (9852' to 9880') in 8 hrs. Drilled at avg. rate of $3\frac{1}{2}$ ft/hr. Went back in hole with $6\frac{1}{8}$ " diamond bit (Christensen - Serial No. 45-13887). Had to start reaming hole at 330 ft. off bottom. Reamed one zone at 9550' four different times to get thru it. Had to raise viscosity of mud up to 65 to keep hole open. Probably the bentonite zone at 9520' to 9550' was swelling.
- July 2: Drilled 9880' to 9903' (23'). It took 14 hrs. to ream hole to bottom. Began drilling ahead at 3 P.M. Drilling at rate of 2-3 ft/hr., in bentonitic shale.
- July 3: Drilled 9903' to 9956' (53'). Had a drilling break at 9890' to 9910'. Drilled at rate of 7 to 10 min./ft. Circulation of samples very poor. Did not get any returns from bottom for four hours. Break was in a medium-grained clear quartz sandstone with specks of residual black oil, some brown oil staining, and scattered yellow fluorescence. Decided not to test zone until after logging hole. Hole gets tight from time to time and has to be circulated for a couple of hours to clean-up. Drilling at avg. rate of about 30 mins./ft.
- July 4: Drilled 9956' to 9997' (41'). Had a drilling break at 9967' to 9990'. Drilled at avg. rate of about 3 ft/hr. Samples showed intermittent beds of m.g. rd'd ss. and hard tight quartzitic ss. Kelly cracked at 9997' and had to be welded. Not safe to continue using it; so began circulating hole and waiting on another kelly. (Pulled 9 stds and began circulating and waiting.)

- July 5: Drilled 9997' to 10,012' (15'). Waiting on another kelly. Began drilling ahead at 3:30 P.M. Drilling ahead at rate of about 2 ft/hr.
- July 6: Drilled 10,012' to 10,050' (38'). Reached total depth of 10,050' at 7:30 P.M. Circulated 1 hr. and made short trip (Pulled 10 stds.). Went back to bottom and circulated hole and conditioned mud for logging and testing. Came out of hole. Bit #22 (Christensen - Diamond MD-37) made 170' (9880' to 10,050') in 73 hrs. Drilled at avg. rate of $2\frac{1}{3}$ ft./hr.
- July 7: Finished coming out of hole. Waited on Schlumberger. Began logging at 4:30 A.M. Ran I E S log, and Gamma-Density-Compensated Neutron Porosity log. Finished logging at 11 A.M. Sent telecopies of logs to Anschutz - Denver, to Mono Power - Los Angeles, and to Pacific Gas Transmission - Casper. Waited on decision until 10 P.M. All decided to run casing.
- July 8: Went back in hole and circulated. Came out of hole, and laid down drill collars and 4000 ft. of drill pipe. Began running $4\frac{1}{2}$ " K-55, 11.60# casing, as a liner to be hung from bottom of intermediate casing.
- July 9: Finished running $4\frac{1}{2}$ " casing. Landed casing at 10,020' and cemented with 250 sacks of cement. Plug down at 9 A.M. Casing hanger at about 5850'. Began rigging down.

Completion Work

- Aug. 10-23: Perforated Cedar Mt. sand from 9580' to 9595' with 4 shots/ft. and acidized with 1000 gals. of H F acid and swabbed down. Gas flowed at rate of 3 MCFPD. Installed bridge plug at 9510'.

Perforated Dakota sand from 9450' to 9465' with 2 shots per ft. and swabbed fluid out and had slight blow of gas (too small to measure). Acidized with 1000 gals. of H F acid and swabbed down and had slight gas blow (TSTM).

Fracture treated by Kiel method using 1433 bbls. of treated water w/ 37000# sand. Treated in four stages; screened out on final stage. Average injection rate was 35 bbl per minute at 4500 psi. Swabbed fluid out and well kicked off on second swab and flowed load fluid and gas. Flowed back most of the frac-fluid and gas flow gauged 951 MCFPD on $\frac{1}{4}$ " choke with 140# flowing pressure on Aug. 23, 1974.

GEOLOGIC REPORT
ON
ANSCHUTZ #1-A STATE 913 WELL
GRAND COUNTY, UTAH

General Geologic Conditions

The subject well was located along the axis of a east-west trending magnetic anomaly which might reflect an older positive structural feature. The well was on the eastward plunge of this anomaly but should be in a favorable position, if the magnetic anomaly is properly indicating the structural attitude of the Cretaceous and older sediments prior to some of the more recent geologic events in Tertiary time. The well is about one mile southeast of the Anschutz #1 State 428 well located in the southeast quarter of Section 5 of the same township. The 428 well was located on the north flank of the same anomaly, so the subject well should have been structurally higher if the magnetic anomaly is reflecting the underlying structure; and the data from the well confirmed that the subject well was about 300 feet structurally higher than the #428 well.

Incorporated in the magnetic data on the area was also an indication that the sand development and thickness in the Castlegate, Dakota, and Cedar Mountain sections might be somewhat better in the subject well than in the #428 well. This was confirmed by the logs and results of the well.

The subject well was located about 5 miles east of the Pacific Natural Gas Moon Ridge #31-15 well, which had an initial flow of 30 million cubic feet of gas per day from the Buckhorn sand at the base of the Cedar Mountain formation. The Moon Ridge #31-15 well was located on the south flank of the same positive magnetic anomaly and should be somewhat lower structurally than the subject well. The well data show that it is about 400 feet lower, which tends to confirm the presence of the structural feature indicated by the magnetic anomaly.

The well is located regionally at the southern edge of the Uinta Basin and north of the Uncompahgre fault. It is on the northwest plunging flank of the Uncompahgre Uplift, and on a westward trend of developed natural gas fields at San Arroyo, East Canyon, Westwater, and Fence Canyon. The natural gas in these fields is found in lenticular sands in the Dakota, Cedar Mountain, and Morrison formations; and some is found in the more continuous blanket-like sand in the Entrada formation. The natural gas found in the latter formation in the area usually has an appreciable amount of CO₂ and therefore has a much lower BTU content.

In general, the best gas fields found and developed in the area are on favorable structural features. This may be due to the better developed nature of the lenticular sands on the positive structural features; but the lenticularity of the sands, except the Entrada sand, could afford their own traps without benefit of favorable structure.

The rocks exposed along the rims of the canyons in the area of the subject well belong to the lower Green River formation and consist of glauconitic sands, green shales and thin marlstone beds.

Considerable faulting and adjustments have taken place thru-out the area due to the various rejuvenations of the Uncompahgre Uplift and to the continued sinking of the Uinta Basin from Permian thru Tertiary time. In general, the faulting and movement are not apparent in the Mesaverde and younger strata, other than stratigraphic irregularities. Thru experience, it has been found that faulting has not been essential to or greatly effected the hydrocarbon accumulations; but has definitely effected the reservoir rocks adjacent to the fault plane. The natural porosity and permeability of the reservoir rock have been destroyed by the influx of clay minerals and gouge material thus inhibiting production near the fault plane (nearer than 500 to 600 feet). There is naturally considerable variation in the porosity and permeability in the lenticular sands of the Dakota, Cedar Mountain, and Morrison formations;

so anything that augments this condition is to be avoided, if possible.

Drilling History

A complete daily history of the drilling operations of the Anschutz #1-A State 913 Well is given in the preceding section of this report. No major problems were encountered in the drilling of this well. The well was drilled using air, air-water-soap mist, and mud as circulating media at various times. There was some lost circulation while drilling with mud in the Mesaverde formation; however, this was overcome quite readily.

During a drill-stem-test of the Castlegate sand, the test tool became stuck and the drill pipe was pulled in two, requiring a fishing job which was accomplished with a minimum of trouble.

The upper portion of the hole was drilled with air below the surface casing; but water was encountered at 639 ft. requiring conversion to air-mist drilling. The amount of water encountered increased and it became increasingly difficult to clean the hole, so finally converted to mud for circulation at 2902'. The Mesaverde and upper Mancos, thru the Castlegate sand, were drilled with mud down to a depth of 5926'. A string of intermediate casing (7") was run at this point and the drilling was continued using air for circulation. Water was encountered at 9694' and the dust returns quit; so had to convert to mud at this point, and drilled the rest of the hole to a total depth of 10,050', using mud for circulation. It was considered too risky to use air-mist with the large amount of air-drilled Mancos section in the hole.

Three drill-stem test were accomplished in this well; two in the Castlegate section and one in the Morrison formation at 9812' to 9852'. All three tests recovered a small

amount of gas and no water. Details on the test are given under the "Drilling History" section of this report.

Stratigraphy

A detailed sample descriptive log is attached hereto. The stratigraphic section encountered in the subject well is similar to the #1 State 428 well, about 1 mile to the northwest, but all of the formation tops are higher structurally.

The Castlegate section in the subject well had two well developed clean sands: one at 5612' to 5652'; and the other at 5695' to 5715'. Both these sands were tested and each gave up a small amount of gas with no water, and each showed indications on the pressure charts of severe damage to the formation by mud and water contamination. The shut-in pressures recorded on these tests were over 1000 lbs. (1391# was the highest) which is good.

The Dakota formation had one thick, slightly dirty, sand from 9438' to 9478', which gave up gas at a roughly estimated 14 MCF of gas per day rate when penetrated with air. The samples showed fair porosity and the logs later indicated 10% to 20% porosity thru this sand.

The Cedar Mountain formation had one thick sand which was very fine-grained to fine-grained with poor porosity (less than 12% indicated by the logs) from 9572' to 9606'. This sand probably had some gas in it due to the increased length of the gas flare for a few seconds while drilling.

The Morrison had several different sands in this well. The first sand at 9660' to 9678' in the upper Brushy Basin section had good porosity and contained water. It was necessary to mud-up at this point. A second sand at 9812' to 9828', also in the Brushy Basin section, had fair porosity and some slight shows (black residual oil specks and spotted yellow fluorescences) and was therefore tested. A small amount of gas was recovered with no water and the pressure charts showed severe mud damage. This sand could

be productive with some fracture-treatment.

The Salt Wash section of the Morrison that was drilled in the subject well had three sands: one at 9892' to 9910' which was tight and quartzitic (logs indicated 6% to 8% porosity) but had some specks of black residual oil in the cuttings; the second sand at 9918' to 9932' was hard and quartzitic and without shows (logs showed a porosity of 2% to 6%); the third sand at 9974' to 9992' was hd., quartzitic, with chert fragments and had no shows. The logs indicated porosity of 4% to 8%.

The formations with their tops, thicknesses, and datum points which were encountered in the subject well are as follows:

<u>Formation</u>	<u>Depth to Top</u>	<u>Thickness</u>	<u>Datum</u>
Green River	Surface	1780'	7436' K.B.
Wasatch	1780'	1395'	5656'
Mesaverde	3175'	2201'	4261'
Mancos (Buck Tongue)	5376'	219'	2060'
(Castlegate)	5595'	127'	1841'
Lower Mancos	5722'	3712'	1714'
Dakota	9434'	98'	-1998'
Cedar Mountain	9532'	78'	-2096'
Morrison (Brushy Basin)	9610'	263'	-2174'
(Salt Wash)	9873'	—	-2474'
Total Depth	10,050'	—	—

Comparison with the datum points of the formation tops in the Anschutz #1 State 428 well, show that the subject well was about 235 feet higher structurally on the top of the Mesaverde and Mancos formations and about 330 to 350 feet higher on the Dakota, Cedar Mountain and Morrison formations. This is quite significant and indicates that the structure was more positive during middle Cretaceous time than at the end of Cretaceous time.

Comparison with the datum points of the tops of the formations in the Moon Ridge #31-15 well indicates that the subject well is structurally higher on the top of the Wasatch by 903'; on the top of the Mesaverde by 788'; on the top of the Mancos by 237'; and on the top of the Dakota by 429'. This illustrates the varied uplift and growth of the structure during the various periods.

Hydrocarbon Shows

As noted above, the first show of hydrocarbons in the subject well, other than the thin oil shale and marlstone beds in the upper part of the Green River formation was found in Castlegate sand section of the upper Mancos formation at 5610' to 5720'. This sand had scattered blue fluorescence and good oil stain in parts. A drill-stem test of the section recovered a small amount of gas with no water. Shut-in pressures were 1000# to 1300#.

Continued hydrocarbon shows were found in the upper sands of the Mancos; in fact, the cuttings were saturated with oil from 5900' to 6000' (just below the surface casing) while drilling with air. Continued showings of oil were seen at various intervals in the Mancos as shown on the sample log, but it is believed that some of these showings may have been due to the oil and diesel that was put down the drill pipe on each connection for lubrication of the hammer drill.

Free gas and a flare (10 ft.) were first observed at 9488'. This was coming from the Dakota sand at 9438' to 9478' and was latter gauged and estimated at 14 MCF of gas per day.

Some additional gas may have been obtained from the Cedar Mountain (Buckhorn) sand at 9572' to 9606' due to a 20-ft. flare obtained on a connection at 9582'.

A further show of hydrocarbons was seen in the cuttings of a sand in the Brushy Basin section of the Morrison at 9812' to

9828' and a test of this section recovered a small amount of gas without water. The very slow build-up of the shut-in pressures indicated severe formation damage and the porosity of the zone was only about 10%.

Conclusion

The subject well was located on a magnetic anomaly which indicated a structural high plus well developed sands. Results of the well tend to confirm the interpretation of the magnetic data.

Successful completion of the well as a gas producer - approximately one million cubic feet per day on a $\frac{1}{4}$ inch choke with 140# flowing pressure from the Dakota formation - is indication of the favorable nature of the area. The Cedar Mountain sand had some gas and could be fracture-treated at some future date for commercial production. The Dakota sand was fracture-treated (Kiel frac-treatment) and after returning the frac-fluid has continued to increase in gas volume.

It is believed that additional gas volumes could be obtained from the Castlegate sands with fracture treatment at some future date.

The marked and varied change in the thinning of the stratigraphic section in the various formations in the subject well, when compared to adjacent wells, is good indication of the positive nature of the structural feature on which the well is located and serves to show the active nature of the uplift thru-out the various periods. Since this is a major structural feature, there should be several more favorable locations for future wells, providing the sand development with good porosity and permeability remain continuous and stable.

W. Don Quigley
W. Don Quigley
Consulting Geologist
A.A.P.G. Cert. No. 1296

And. #1-A State 913

- 1000'

G. SE. SEC 9-165-22E.

SOME BK. DR. SH. ELEV. KB. 7436'

LT. grey ss. + grey calc. ss.

LT. grey ss. + bent mica sh.

+ some con. calc. ss.

+ some thin fiss. grey-gn. sh.

Grey calc. congl. calc. ss.

+ grey calc. silt. sh.

GRN. YFG. sh. calc. ss. + silt.

+ some lt. grey silt.

GRN. sh. LT. YFG. ss. (silt) calc.

+ GRN. sh.

DK. grey + grey silt.

GRN. calc. sh. + mica. silt.

+ LT. grey mica. bent. sh.

LT. bent. sh. - good cut

* Grey-gn. calc. mica. sh. + silt.

+ grey. fg. calc. mica. ss.

+ grey-brown var. calc. sh. + thin bent. sh. + GRN. sh. ss.

GRN. bent. calc. mica. silt. + silt. mica.

GRN. silt. mica. sh.

+ silt. mica. + lt. bent. sh. + GRN. sh.

* GRN. YFG. calc. mica. ss.

+ some grey. congl. ss. + GRN. calc. sh.

GRN. calc. silt.

+ PYN.

LT. bent. mica. silt.

LT. grey to GRN. calc. silt.

LT. grey calc. silt.

GRN. calc. sh.

Wh. mica. bent. ss. w/ mica. grains.

GRN. sh.

GRN. sh. + silt.

LT. grey YFG. calc. ss.

+ GRN. sh.

* DK. grey calc. silt. + mica. silt. + grey ss.

GRN. bent. sh. + silt. - mica.

GRN. calc. sh. + silt.

Wh. to GRN. calc. mica. ss. w/ mica. grains (loosely cons.)

GRN. + grey calc. silt. + sh.

Wh. calc. mica. ss. w/ mica. grains + PYN.

As above w/ some GRN. sh. + grey mica. to calc. ss. w/ mica. grains

Wh. calc. mica. ss. w/ mica. grains

GRN. - grey silt. sh.

GRN. - grey silt. sh. w/ mica. spots.

LT. grey calc. ss.

GRN. - grey silt. + sh.

LT. grey mica. ss. - loosely cons.

GRN. - grey sh.

LT. grey. fg. ss. + GRN. silt.

GRN. grey + GRN. silt. sh., silt. + fg. ss. - some lt. grains (silt)

RE. bent. mica. YFG. ss. - silt. - prop. mica.

RE. + GRN. mica. YFG. silt.

LT. grey calc. ss. w/ mica. + loosely cons.

K&E 5 x 5 TO 1/2 INCH 46 0863 MADE IN U.S.A. KEUFFEL & ESSER CO.

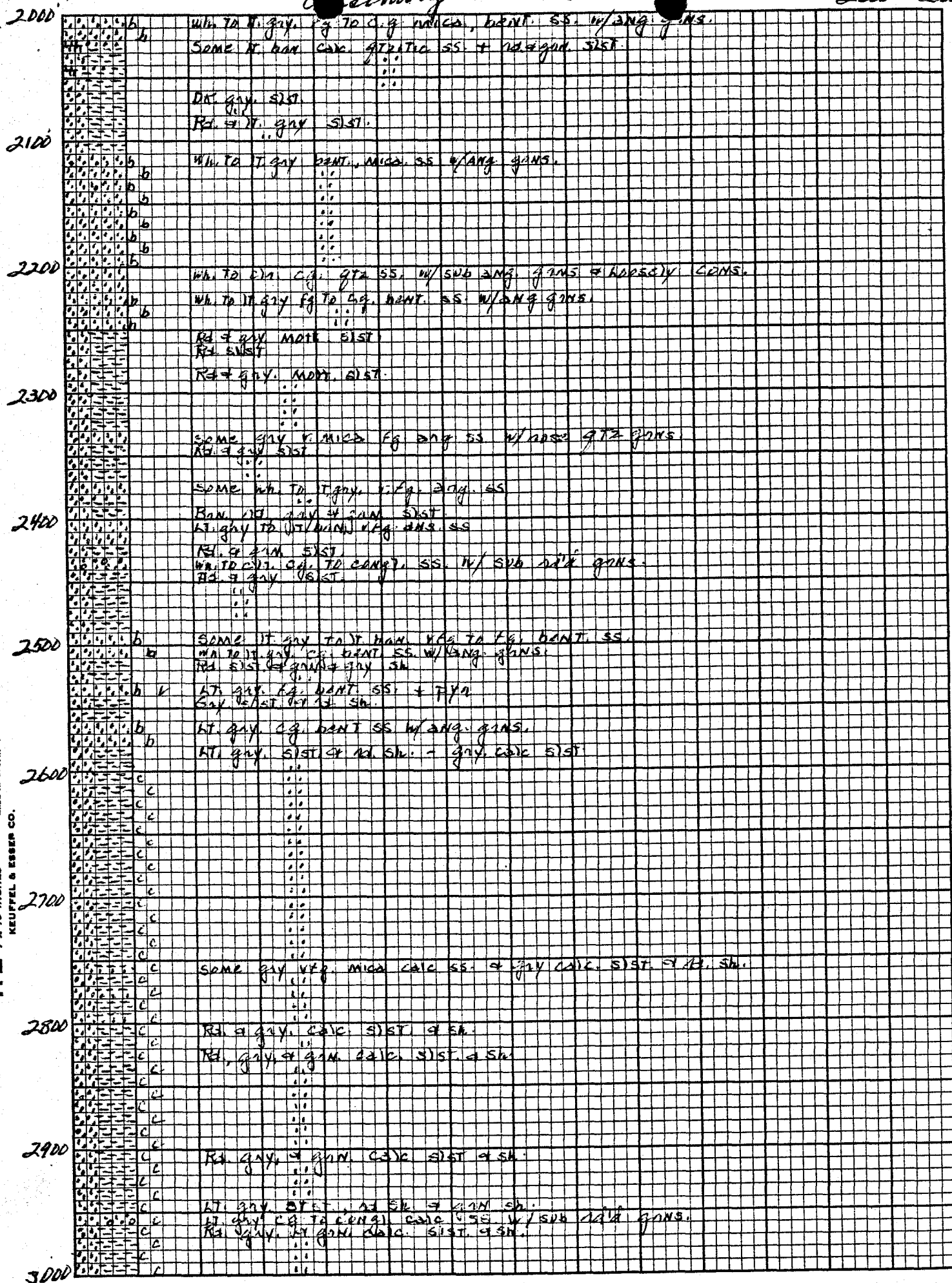
1000-2000'

K+E
5 X 5 TO 1/2 INCH
7 X 10 INCHES
46 0863
MADE IN U.S.A. ♦
KEUFFEL & ESSER CO.

$$\begin{array}{r} \text{Tw} \\ 780 \overline{) 1800} \\ 1800 \\ \hline \end{array}$$

schuty #1-A State 913 Cont

2000' - 3000'



4000' - 5000'

4000

[illegible]

Hido'

LT. gray cal. sst; dk gray & green sh.

4200

LT. gray fly. spec. bent. ss. + LT. gray. m. g. bent. ss.
Gray m. s. s. s. t. ; m. , dr. gray & pub. sh.
LT. gray fly to fly. bent. ss. (spec.) + dr. gray. & m. sh.

4300

LT gny. mg. DENT SS.
ht. gny. rfy. dnty DENT SS. + S1ST
DR. gny. mica S1ST + sh.; rd. sh.

4400

LT. gray to dk gray kg: gtr ss - gray sst & sh.
 Bk, dk gray f. sh. + some lt gray mg: spec. heavy ss.
 dk gray sst & sh. st gray vfg to mg: spec. ss.

4500

\neq some bns. canb. sh.
 \neq some \exists any kg to nly ss.

4600

Wtl. Mg. MICA. bANT. 3 spec. SS.
 DR. gray. Sh. # 51st + blk. carb sh.
 + 1 ft. gray Mg. bANT SS.
 DR. gray. 51st, Sh. + blk. SS.

470

Gay. M. J. BENT, SPEC. SS. & GRAY. SH. (43)2)

480

+ Some red & green skin

490

RAN = JAN, JULIE, SA, + SUSAN
 BR. JULIE, SA
 DR. GARY, SUE, SH, + YVONNE, SE.
 - + SOME... JAN + M. SH

5000

LT. gray fgs. bent. ss.
 blk. ss. sh.
 gray fgs. bent. spec. ss; gray slt. sh.
 dk. gray slt. sh. + sh; gray v. g. dk. ss, lt. g. gray sh.; blk. sh.
 blk. ss. sh. + sh; dk. gray sh. + sh; dk. gray fgs. bent. ss.

Archinty #1-A State 913 600' 5000'-6000'

5000

Gray, blk, dk, & gny sh. + some lt gny kg. sp. ss

..

lt gny kg to mgy. daty spec. ss.

Vanic. sh. + bent & sist

5100

blk + tan conc. dity sh. & sist

dk gny, tan, gny & blk sh. & sist

tan dity conc. sist & ss

dk. gny mica. vfg. ss, sist, & vanic. sh.

5200

dk. tan dity conc. sist & ss, dk. gny & tan sh.

+ some lt gny kg spec. ss

lt gny kg spec. ss & blk conc. sh.

lt gny to wh. kg spec. sist.

5300

gny. tan, gny & rd. sh. & sist

gny. tan conc. sist & lt gny kg spec. ss

lt gny to wh. spec. kg. ss.

plus. dk gny sist & sh. blk. sh.

Kmbt

5400

lt gny to wh. kg spec. ss

tan gny, gny sh. & sist + some dk gny dity sh. & conc. sist.

+ some lt gny to wh. kg spec. ss.

rd. dk gny, gny, & blk sh. & conc. sist.

+ some gny vfg. dity ss

dk gny to blk conc. & silic. sh. & sist.

5500

dk gny vfg. dity ss

+ dk gny conc. sist.

dk gny conc. sist & silic. sh.

+ some dk gny vfg. dity ss.

5600

5620

Kcg

dk gny kg conc. ss, blk sh. & bent.

lt gny to wh. kg spec. ss (slightly calc.) w/ some fluid.

+ gny & blk silic. sh.

dk gny vfg. blk. tan ss & sist.

some conc. dk. kg. sist ss - w/ some fluid + dk gny vfg. blk. sist ss - calc.

dk. tan vfg. blk. sist ss - w/ some fluid, some stain, & fluid conc. blk. oil resid

5700

lt gny spec. conc. vfg. kg ss w/ some fluid

good lt. blue fluid

5720

Kmm

dk gny & dk tan vfg. blk. sist & sist w/ some fluid

+ some dk gny vfg. dity ss - calc.

lt gny conc. kg spec. ss & dk gny sh.

5800

dk gny vfg. conc. dity sh. & blk. sh.

dk gny conc. sist & blk. sh.

+ some blk asphaltic resid w/ some cut

+ some gny sh. & sist (calc. & p) blk. asphalt.

dk vfg. conc. dity ss & sist.

lt gny kg calc. sist ss, w/ some fluid, lt. blue fluid & good cut

dk gny conc. sist. w/ blk sh.

5900

dk gny si conc. conc. sist & sh.

gny conc. sist sh.

gny conc. sist w/ some fluid, lt. blue fluid & good cut (blk. oil)

gny conc. sist w/ some fluid, lt. blue fluid & good cut

gny to wh. sist sh. w/ some fluid

6000

6000' - 7000'

6000

6100

6200

6300

6400

6500

6600

6700

6800

6900

7000

* (Fam) 12	h. n. (S)	✓	SA	W/ 21	ST
67. 4. 4. 4.	SITY	540			

DR. J. W. Stryker

* * DR 227 Indian City Sh. W/201 ST 4 CUT - (Circled) No 9.8 yds. from 1 pile
* * 2.5 hrs. 3 hrs. 20 min.

* DR gnu SITY Sh w/ SL RD ST 4 cut

ATLANTA CITY SA. 45151

LT 33% bent. sist.

DR. GAY. Mon. Sh.

*DRG. 42V. CALC. RFR. 42TY. SE. + S1ST. W/DL. ST. 4 good cut. IT. blue

DK 914 (2)C MAR 5/4

*DK. gay SITK C3K. SH & Rtg. and CAC. Intx SS w/ (S, M) SP. & INT (S, C, G, D, & A)
M. E. M. 2010

DK 94, CALC. ENG. SIST. 9.54

*DK 344 coll. data vfg. ss. & sst. 14/01 st. & cut

DN. grey calc. sh.

~~OK~~ any to bin and calc. sist. w/all SI & cut.

* OK	24V	(3)C	SH.	9	S)ST	W/SI	5/3/0
------	-----	------	-----	---	------	------	-------

PK. Gay Cobb City Sm.

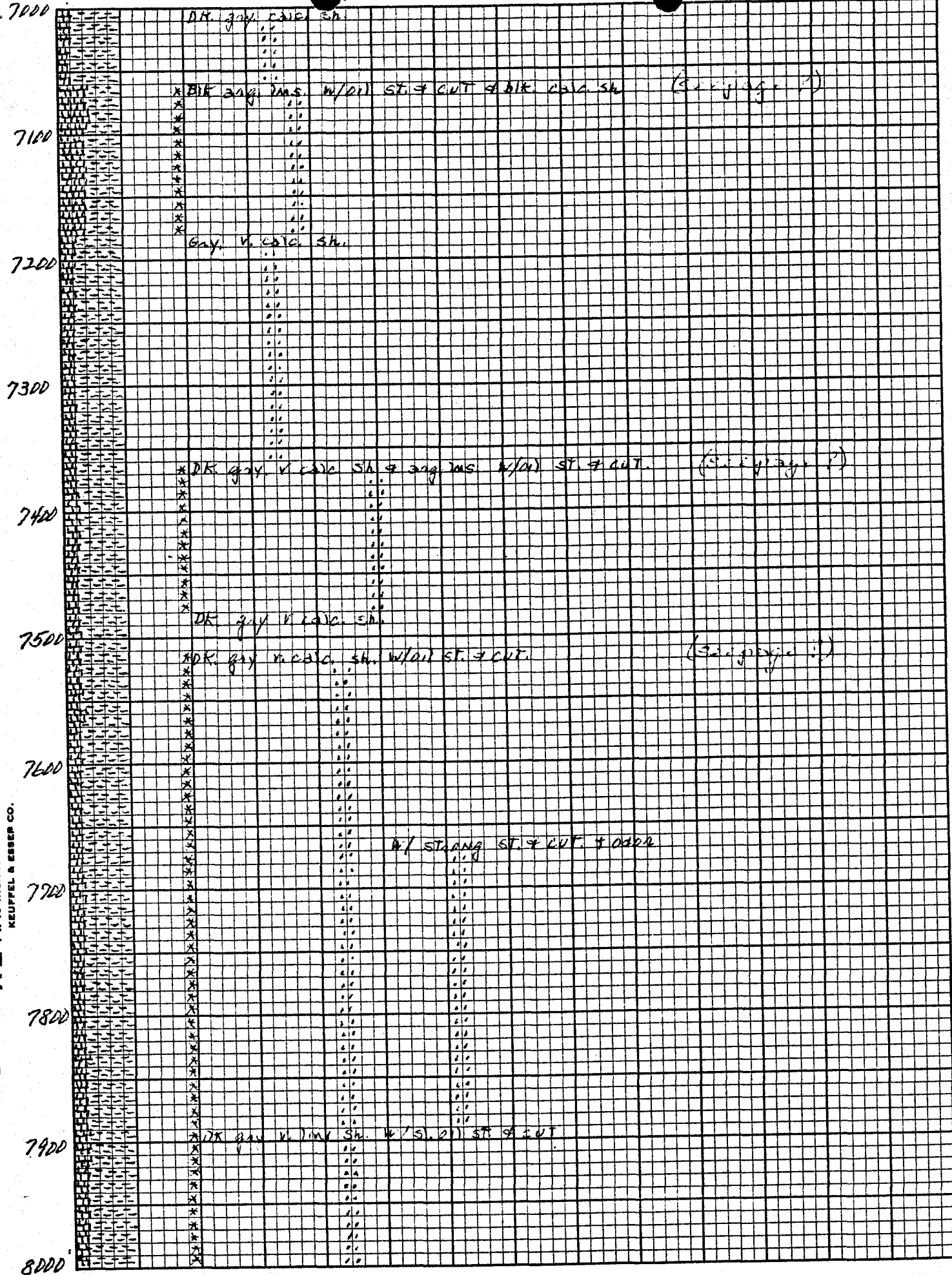
x DR. gray calc stry sh. w/brn st & cut (See page 2)

Dark gray bent. sh. (calc.)

DK. 92V calc. sh.

Anschrift # 1-A State 913

7000 - 8000'



Anschutz #1-A State 413 Cont

8000' - 9000'

8000

8100

8200

8300

8400

8500

8600

8700

8800

8900

9000

DK gray v. imp. sh. w/ sl. oil str. & cut

sl. slty

DK gray imp. slty sh.

Gray calc. sl. slty sh.

Gray calc. slty sh. & slty

DK gray calc. slty sh.

LT gray slty bent sh.

DK gray to brn v. imp. calc. slty sh. & slty w/ heavy oil sat. w/ iron & gum cut

Gray calc. slty sh.

DK gray calc. slty sh. w/ sl. oil str. & cut

DK gray calc. slty sh. w/ bent

DK gray calc. slty sh.

9000-10,000

9000

9100

9200

9300

9400

Kd
9440

9500

Kcm
9540'

9601

Im

9660

9702

9800

9900

10,000

KE
3 X 3 TO 1/2 INCH
7 X 10 INCHES
46 0863
MADE IN U. S. A. •
KEUFFEL & ESSER CO.

Gray calc. bent. sh.
Gray calc. sily sh.
*DK gray sily to sly calc. sh. w/oil st. & cut
*DK gray calc. med. sh. w/px
*Bk. sand sh. w/ st. & faint line cut. (sily, sily) sh.
*DK. med. calc. sh. w/oil st. & cut (sily) + sly
*DK. med. to dk. gray calc. sily sh. w/ st.
*Bk. to dk. gray mica calc. sily sh.
*DK. gray calc. bent. sh. w/ sily st.
*Gray med. calc. mica ss.
LT. gray v. calc. bent. sh.
sily, sily & mica.
A DK. gray to bk. v. sily calc. sily sh. + some anhyd.
A *W. to lt. gray v. med. to med. sily ss. w/ sub. med. gms. - some fluid.
*Gas alone to surface at 9488' (10 ft. plane)
*LT. gray calc. bent. sh. - sily sily.
LT. gray to lt. gray. sily sh. & bent.
*LT. gray to cl. bent. v. med. to med. ss. w/ sub. med. gms. = Gas alone (20 ft) for 15 sec.
*Some lt. gray bent. sh.
*W. bent. & bent. sh. w/px
*lt. gray bent. sh.
*Rd. gray, & gray. sily calc. bent. sh. & sily.
Gray bent. sily sh. & sily.
LT. bent. to buff. bent. sily sh. sily & some med. sh.
*W. to cl. v. med. to med. bent. ss. w/ sub. med. gms. (HAD H₂O IN SS) GUT DUSTING
Some w. to cl. quartz ss. + bent. sily. rd. gray. & gray sh.
*W. to lt. gray quartz & v. mica. mica sh. & bent. sily.
*Rd. gray, & gray. sily calc. bent. sh. & sily. (HARD)
*lt. gray. sily. ms. & gray. sily. sh.
*Gray sily. sh. & quartz & bent.
*v. med. bent. sh. & dk. gray sily & ch.
*Rd. sily. & v. med. bent. sh. & ch.
*W. to cl. quartz calc. bent. ss. - w/ bk. resid. oil specks - SPOTTED FLUID.
*SOME gray bent. sh. & bent. + px. (LAST #3 9812-9852, ACC. 330 MHD + 3800' GAS. SIP-241/1 INCR.)
*Rd. & bk. sily. ; bent. ms. ; & gray bent. sh.
*Gray sily. calc. sh. - gray. gray. calc. quartz ss. ; bent. ms. & med. sily.
*LT. gray bent. sh. ; gray & bent. sily. ; & bent. sh.
*W. bent. & cl. v. med. to med. quartz calc. ss. w/ specks of resid. oil.
*W. to lt. gray bent. sh. (calc.)
*W. to cl. med. quartz to dk. calc. ss.
*v. med. calc. to bent. sh.
+ some lt. gray sily.
*W. to cl. med. quartz ss. w/ ch. & some v. med. quartz ss. w/ sub. med. gms.
*v. med. sh. & sily.

10000-

10,000

10,100

10,200

10,300

10,400

10,500

K+W
3 X 5 TO 1/2 INCH 46 0863
7 X 10 INCHES MADE IN U.S.A. •
KEUFFEL & ESSER CO.

STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS CONSERVATION

1588 WEST NORTH TEMPLE
SALT LAKE CITY, UTAH 84116
328-5771

State Lease No. STATE 428 #1
Federal Lease No. _____
Indian Lease No. _____
Fee & Pat. _____

REPORT OF OPERATIONS AND WELL STATUS REPORT

STATE UTAH COUNTY Grand FIELD/LEASE STATE 428 #1

Meadow Creek Prospect

The following is a correct report of operations and production (including drilling and producing wells) for the month of:

SEPTEMBER 19 74

Agent's Address 1110 Denver Club Bldg.
518 17th Street
Denver, Colo. 80202
Phone No. _____

Company The Anschutz Corporation
Signed Richard P. McConne
Title Production Clerk

Loc. and County	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
										Perforated Cedar Mountain 9778-82 and Dakota 9685-95. Preparing to sandfrac.

GAS. (MCF)

0	
0	Wanted
0	Off Leas

OIL or CONDENSATE: (To be reported in Barrels)

On hand at beginning of month 0
Produced during month 0
Sold during month 0
Unavoidably lost 0
Reason:
On hand at end of month 0

CELL CULTURE CELLS: This is not an official GLP test. The test is performed on cells of non-crediting each following

STATE OF UTAH

SUBMIT IN DUPLICATE*

(See other instructions on reverse side)

OIL & GAS CONSERVATION COMMISSION

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL:		OIL WELL <input type="checkbox"/>	GAS WELL <input checked="" type="checkbox"/>	DRY <input type="checkbox"/>	Other _____								
b. TYPE OF COMPLETION:		NEW WELL <input checked="" type="checkbox"/>	WORK OVER <input type="checkbox"/>	DEEP-EN <input type="checkbox"/>	PLUG BACK <input type="checkbox"/>								
			DIFF. RESVR. <input type="checkbox"/>	Other _____									
2. NAME OF OPERATOR The Anschutz Corporation													
3. ADDRESS OF OPERATOR 1110 Denver Club Bldg., 518 17th St. Denver, Colorado 80202													
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface C/SE Sec. 9, Twp 16S, Rge 22 E, Grand County, Utah At top prod. interval reported below SAME At total depth SAME													
14. PERMIT NO. <u>30193</u>		DATE ISSUED 43-019-30201 5-13-74											
5. LEASE DESIGNATION AND SERIAL NO. ML 21913		6. IF INDIAN, ALLOTTEE OR TRIBE NAME											
7. UNIT AGREEMENT NAME		8. FARM OR LEASE NAME STATE 913											
9. WELL NO. 1-A		10. FIELD AND POOL, OR WILDCAT W.C.											
11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA Sec. 9-T16S-R22E		12. COUNTY OR PARISH Grand		13. STATE Utah									
15. DATE SPUDDED 5-21-74	16. DATE T.D. REACHED 7-6-74	17. DATE COMPL. (Ready to prod.) 8-23-74	18. ELEVATIONS (DF, R&B, RT, GB, ETC.)* GL 7424 KB 7436		19. ELEV. CASINGHEAD								
20. TOTAL DEPTH, MD & TVD 10050	21. PLUG, BACK T.D., MD & TVD 9910	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY →	ROTARY TOOLS ✓	CABLE TOOLS								
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 9580-9595--Cedar Mountain 9450-9465--Dakota					25. WAS DIRECTIONAL SURVEY MADE NO								
26. TYPE ELECTRIC AND OTHER LOGS RUN Induction-Electrical, Comp. Neutron Density, CBL					27. WAS WELL CORRED NO								
28. CASING RECORD (Report all strings set in well)													
CASINO SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED								
9 5/8"	32#	307'	12 1/4"	270 Sx	NONE								
7"	23#	5925'	8 3/4"	150 Sx	NONE								
29. LINER RECORD					30. TUBING RECORD								
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)						
4 1/2"	5850'	10,020'	250	NONE	2 3/8"	9354'	9354'						
31. PERFORATION RECORD (Interval, size and number) 9580'-9595' 4SPF 11 Gram charge 9550'-9565' 2SPF Hyper jet				32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC. <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>DEPTH INTERVAL (MD)</th> <th>AMOUNT AND KIND OF MATERIAL USED</th> </tr> </thead> <tbody> <tr> <td>9580-9595</td> <td>1000 Gal HF Acid</td> </tr> <tr> <td>9450-9465</td> <td>1000 Gal HF Acid</td> </tr> <tr> <td>9450-9465</td> <td>Frac w/Kiel Process: 25,000#, 100 M/sd-12,000# 20/40 sd-2,433bb1/wtr.</td> </tr> </tbody> </table>		DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED	9580-9595	1000 Gal HF Acid	9450-9465	1000 Gal HF Acid	9450-9465	Frac w/Kiel Process: 25,000#, 100 M/sd-12,000# 20/40 sd-2,433bb1/wtr.
DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED												
9580-9595	1000 Gal HF Acid												
9450-9465	1000 Gal HF Acid												
9450-9465	Frac w/Kiel Process: 25,000#, 100 M/sd-12,000# 20/40 sd-2,433bb1/wtr.												
33.* PRODUCTION													
DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)			WELL STATUS (Producing or shut-in) Shut in.								
DATE OF TEST 9-4-74	HOURS TESTED 72	CHOKE SIZE 1/4"	PROD'N. FOR TEST PERIOD →	OIL—BBL. NONE	GAS—MCF. 865/Day	WATER—BBL. NONE							
FLOW. TUBING PRESS. 533	CASING PRESSURE -0-	CALCULATED 24-HOUR RATE →	OIL—BBL. NONE	GAS—MCF. 865 Mcf/D	WATER—BBL. NONE	OIL GRAVITY-API (CORR.) -----							
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) Shut in-waiting on gas line and sales contract					TEST WITNESSED BY Cable, Inc.								
35. LIST OF ATTACHMENTS Drilling history-Geologic report and Formation log													
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records													
SIGNED <u>Don A. McCulloch</u>		TITLE PRODUCTION SUPERINTENDENT		DATE 11-14-74									

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES				38. GEOLOGIC MARKERS		
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	MEAS. DEPTH	TRUE VERT. DEPTH
Green River	Surface	1780	Show Gas 5611 to 5631. Show of Gas Show of Gas			
Wasatch	1780	1780				
Mesaverde	3175	3175				
Mancos	5376	5376				
Dakota	9434	9434				
Cedar Mtn.	9532	9532				
Morrison	9616	9610				
TD		10050				

NOV 15 1974

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS CONSERVATION
1588 West North Temple
Salt Lake City, Utah 84116

REPORT OF WATER ENCOUNTERED DURING DRILLING

Well Name and Number STATE 913 NO. 1-A

Operator *Septon* THE ANSCHUTZ CORPORATION

Address 1110 Denver Club Bldg., 518 17th, Denver, Colorado 80202

Contractor Willard Pease Drilling Company

Address P.O. Box 548 Grand Junction, Colorado 81501

Location C SE 1/4; Sec. 9; T. 16; R. 22 E., Grand County.
S

Water Sands:

	Depth: From - To -	Volume: Flow Rate or Head -	Quality: Fresh or Salty -
1.	<u>639'</u>	<u>Not Reported</u>	<u>Salty</u>
2.	<u>2206-2956</u>	<u>200-300 Bbl/Hr.</u>	<u>Salty</u>
3.	<u>9694</u>	<u>Not Reported</u>	<u>Salty</u>
4.	<u></u>	<u></u>	<u></u>
5.	<u></u>	<u></u>	<u></u>

(Continue on Reverse Side of Necessary)

Formation Tops:

Green River	Surface	Dakota	9434
Wasatch	1780	Cedar Mountain	9532
Mesaverde	3175	Morrison	9610
Mancos	5376		

NOTE: (a) Upon diminishing supply of forms, please inform this office.
(b) Report on this form as provided for in Rule C-20, General Rules and Regulations and Rules of Practice and Procedure.
(c) If a water quality analysis has been made of the above reported zone, please forward a copy along with this form.

1508 WEST NORTH TEMPLE
SALT LAKE CITY, UTAH 84116
328-5771

State Lease No.
Federal Lease No.
Indian Lease No.
Fee & Pat.

REPORT OF OPERATIONS AND WELL STATUS REPORT

UTAH COUNTY GRAND FIELD/LEASE STATE 913 NO. 1-A

Unnamed Field; Meadow Creek Prospect

The following is a correct report of operations and production (including drilling and producing wells) for the month of:
September, 1975.

Agent's Address: 1110 Denver Club Bld.
518 17th Street
Denver, Colo. 80202

Company THE ANSCHUTZ CORPORATION
Signed Beth Uerra
Title Production Secretary

Page No. _____

Sec. and 40' 1/2	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
										Operations Temporarily Suspended no market

OIL or CONDENSATE: (To be reported in Barrels)

On hand at beginning of month _____

Produced during month _____

Sold during month _____

Unavoidably lost _____

Reason: _____

On hand at end of month _____

Handy Copy in Anschutz File
Bookcliffs



INTERNATIONAL
ASSOCIATION OF
DRILLING CONTRACTORS

7400 HARWIN DR., SUITE 305
HOUSTON, TEXAS 77036
PHONE: 713 784-4090

August 23, 1976

Mr. Patrick Eriscoll, Chief Petroleum Engineer
State of Utah Dept. of Natural Resources
Division of Oil, Gas & Mining
1588 West North Temple
Salt Lake City, Utah 84116

Dear Mr. Eriscoll,

This will confirm our telephone conversation of today.

There is not to my knowledge in the Lower 48 States of the U.S. a drilling rig fitted for helicopter transport and useful for normal oil exploration. The need for such equipment in U.S. domestic work simply doesn't exist.

Even if such a rig were assembled and available to work here in the Rocky Mountains, it would be prohibitively expensive. It would be necessary to mount a support operation of great magnitude not only at the work site but also at a special base. Obviously, a large number of expensive helicopters would be required.

The only occasions that justify a helicopter operation are those on extremely large blocks (thousands of square miles) having a production potential measured in the hundreds-of-thousands of barrels per day. And, should production indeed be discovered of such extent and magnitude, the inflexible rule is for the helicopter transport to be abandoned immediately after initial discovery and deliniation in favor of surface transport.

Please call on me if IADC can provide further information.

Sincerely,

Ed McGhee

CIRCULATE TO:

DIRECTOR ----- ☒
PETROLEUM ENGINEER ----- ☒
MINE COORDINATOR ----- ☒
ADMINISTRATIVE ASSISTANT ----- ☒
ALL ----- ☐

RETURN TO For Filing
FOR FILING

EMcG/rb

PRESIDENT: FRANK L. THOMPSON
FIRST VICE PRESIDENT: SPENCER TAYLOR

EXECUTIVE VICE PRESIDENT:
ED MCGHEE

SECRETARY-TREASURER: CHESTER B. BENGE JR.
GENERAL COUNSEL: ELMER H. THEIS

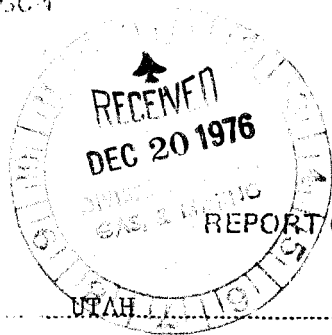
Regional Vice-Presidents

INTERNATIONAL: David M. Cormichael
TEXAS GULF COAST: George Platt
MID-CONTINENT: Lee Daniel
SOUTHEAST COAST: R. V. Pierce

OFFSHORE: J. P. Johnson
ROCKY MOUNTAIN: William M. Booth
WELL SERVICING AND CABLE
TOOLS: J. J. Harrigan

PACIFIC COAST: Robert B. Montgomery
WEST TEXAS-EAST NEW MEXICO: B. E. Burton
NORTHEAST TEXAS-NORTH LOUISIANA:
SOUTH ARKANSAS: J. F. Justiss, Jr.

4. following



STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS CONSERVATION

1588 WEST NORTH TEMPLE
SALT LAKE CITY, UTAH 84116
328-5771

State Lease No.
Federal Lease No.
Indian Lease No.
Fee & Pat.

REPORT OF OPERATIONS AND WELL STATUS REPORT

UTAH COUNTY GRAND FIELD/LEASE STATE 913 NO. 1-A

Unnamed Field; Meadow Creek Prospect

The following is a correct report of operations and production (including drilling and producing wells) for the month of:

November 19 76

Agent's Address. 1110 Denver Club Bld.
518 17th Street
Denver, Colo. 80202

Company THE ANSCHUTZ CORPORATION
Signed Beth Vienna
Title Production Secretary

Page No. _____

County	Well No.	Range	Twp.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
										Operations Temporarily Suspended no market

6-10-78

Content

Oil Lease

OIL or CONDENSATE: (To be reported in Barrels)

On-hand at beginning of month _____

Produced during month _____

Sold during month _____

Unavoidably lost

Reason: _____

On hand at end of month _____

filed at the County Clerk's office on 11/10/2011 following
 entry of the protective order. *Ex. 10* 11/10/2011 11:11 AM

RECEIVED
JAN 19 1977
DIVISION OF OIL
GAS, & MINING
REPORT OF

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS CONSERVATION

1588 WEST NORTH TEMPLE
SALT LAKE CITY, UTAH 84116
328-5771

State Lease No. _____
Federal Lease No. _____
Indian Lease No. _____
Fee & Pat. _____

~~REPORT OF OPERATIONS AND WELL STATUS REPORT~~

UTAH COUNTY GRAND FIELD/LEASE STATE 913 NO. 1-A

Unnamed Field; Meadow Creek Prospect

The following is a correct report of operations and production (including drilling and producing wells) for the month of:

December	19	76
----------	----	----

Agent's Address: 1110 Denver Club Bld.
518 17th Street
Denver, Colo. 80202
Phone No. _____

Company THE ANSCHUTZ CORPORATION
Signed Beth Vierra
Title Production Secretary

Co. and No.	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (in thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
										Operations Temporarily Suspended no market

63, 1957-58

Printed _____
 Paid Less _____

OIL or CONDENSATE: (To be reported in Barrels)

On hand at beginning of month _____
Produced during month _____
Sold during month _____
Unavoidably lost _____
Reason: _____
On hand at end of month _____

104-10100-1000 TELLS: This is a report of a shooting on 10/10/68, at the home of the following
 104-10100-1000 There a well known gang were shot and a police report must be made. **TEL: REPORT MADE TEL FILED**

State Lease No. _____
Federal Lease No. _____
Indian Lease No. _____
Fee & Pat. _____

UTAH COUNTY GRAND FIELD/LEASE STATE 913 NC. 1-A

Unnamed Field; Meadow Creek Prospect

January 19 77

Company THE ANSCHUTZ CORPORATION
Signed Beth Chierra
Title Production Secretary

OIL or CONDENSATE: (To be reported in Barrels)

On hand at beginning of month _____
 Produced during month _____
 Sold during month _____
 Unavoidably lost _____
 Reason: _____
 On hand at end of month _____

U.S. 1111

following

State & Local Govt. _____
Federal Govt. No. _____
Indiv. & Corp. No. _____
For & For _____

91314

1110 Denver Club Bld.
518 17th Street
Denver, Colo. 80202

Company THE ARSCHITZ COMPANY, INC.
Signed Beth Viera
Title Production Secretary

Operations Temporarily
Suspended no market

On hand at beginning of month _____
 Produced during month _____
 Sold during month _____
 Unavoidable loss _____
 Reason: _____
 On hand at end of month _____

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS CONSERVATION
1588 WEST NORTH TEMPLE
SALT LAKE CITY, UTAH 84116
328-5771

State Lease No.
Federal Lease No.
Indian Lease No.
Fee & Pat.

REPORT OF OPERATIONS AND WELL STATUS REPORT

UTAH COUNTY GRAND FIELD/LEASE STATE 913 NO. 1-A

Unnamed Field; Meadow Creek Prospect

This is a correct report of operations and production (including drilling and producing wells) for the month of:
March, 1977

Agent's Address: 1110 Denver Club Bld.
518 17th Street
Denver, Colo. 80202

Company: THE ANSCHUTZ CORPORATION
Signed: Beth Vienna
Title: Production Secretary

Sec. and 1/4	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
										Operations Temporarily Suspended no market

OIL or CONDENSATE: (To be reported in Barrels)

On hand at beginning of month
Produced during month
Sold during month
Unavoidably lost
Reason:
On hand at end of month

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS CONSERVATION
1588 WEST NORTH TEMPLE
SALT LAKE CITY, UTAH 84116
328-5771

State Lease No. _____
Federal Lease No. _____
Indian Lease No. _____
Fee & Pat. _____

REPORT OF OPERATIONS AND WELL STATUS REPORT

UTAH COUNTY GRAND FIELD/LEASE STATE 913 NO. 1-A
This is a correct report of operations and production (including drilling and producing wells) for the month of:
April 19 77
Unnamed Field; Meadow Creek Prospect

Agent's Address: 1110 Denver Club Bld.
518 17th Street
Denver, Colo. 80202
Company: THE ANSCHUTZ CORPORATION
Signed: Beth Vienna
Title: Production Secretary

Sec. and 1/4	Twp.	Range	Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
										Operations Temporarily Suspended no market

OIL or CONDENSATE: (To be reported in Barrels)

On hand at beginning of month _____
Produced during month _____
Sold during month _____
Unavoidably lost _____
Reason: _____
On hand at end of month _____

1588 WEST NORTH TEMPLE
SALT LAKE CITY, UTAH 84116
328-5771

State Lease No.
Federal Lease No.
Indian Lease No.
Fee & Pat.

UTAH COUNTY GRAND FIELD/LEASE STATE 913 NS, 1-A

_____ May _____, 19 77 _____

Company THE ANSCHUTZ CORPORATION
Signed Beth Viera
Title Production Secretary

On hand at beginning of month _____
Produced during month _____
Sold during month _____
Unavoidably lost _____
Reason: _____
On hand at end of month _____

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL & GAS CONSERVATION
1588 WEST NORTH TEMPLE
SALT LAKE CITY, UTAH 84116
328-5771

State Lease No.
Federal Lease No.
Indian Lease No.
Fee & Pat.

REPORT OF OPERATIONS AND WELL STATUS REPORT

UTAH COUNTY GRAND FIELD/LEASE STATE 913 NO. 1-A

Unnamed Field; Meadow Creek Prospect

This report is a correct report of operations and production (including drilling and producing wells) for the month of:
June 19 77

Agent's Address: 1110 Denver Club Bld.
518 17th Street
Denver, Colo. 80202

Company: THE ANSCHUTZ CORPORATION
Signed: Beth Vienna
Title: Production Secretary

Well No.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (In thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
							Operations Temporarily Suspended no market

OIL or CONDENSATE: (To be reported in Barrels)

On hand at beginning of month
Produced during month
Sold during month
Unavoidably lost
Reason:
On hand at end of month

DEPARTMENT OF NATURAL RESOURCES
VISION OF OIL & GAS CONSERVATION

1588 WEST NORTH TEMPLE
SALT LAKE CITY, UTAH 84116
833-5771

State Lease No. _____
Federal Lease No. _____
Indian Lease No. _____
Fee & Pat. _____

REPORT OF OPERATIONS AND WELL STATUS REPORT

STATE Utah COUNTY Grand FIELD/LEASE State 913

The following is a correct report of operations and production (including drilling and producing wells) for the month of: _____, 19____

Agent's Address P.O. Box 283
Houston, Texas 77001
Phone No. 713/621-9030, Ext 345

Company Texoma Production Company *
Signed Aaron H. Koudelka
Title Production Coordinator

Well No.	Range	Twp.	Days Produced	Barrels of Oil	Gravity	Cu. Ft. of Gas (in thousands)	Gallons of Gasoline Recovered	Barrels of Water (if none, so state)	REMARKS (if drilling depth: if shut down, cause; date and result of test for gasoline content of gas)
1-A	22E	16S							Operations Temporarily Suspended - No Market

* PLEASE NOTE
NAME CHANGE
from NARMCO, INC

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER		5. LEASE DESIGNATION AND SERIAL NO. ML 21913
2. NAME OF OPERATOR BUCKHORN PETROLEUM CO.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME ---
3. ADDRESS OF OPERATOR P. O. Box 5928 T.A.; Denver, COLORADO 80217		7. UNIT AGREEMENT NAME Cherry Canyon Unit
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1320' FSL & 1320' FEL (C SE $\frac{1}{4}$) Sec. 9-T16S-R22E Grand County, Utah		8. FARM OR LEASE NAME STATE 913
14. PERMIT NO. 43-019-30201 5/13/74		9. WELL NO. 1-A
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 7424' GL; 7436' KB		10. FIELD AND POOL, OR WILDCAT Cherry Canyon/Dakota
		11. SEC., T., R., M., OR BLE. AND SURVEY OR AREA C SE $\frac{1}{4}$ Sec. 9-T16S-R22E
		12. COUNTY OR PARISH Grand
		13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) Change of Operator	XXX

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) Change of Operator	XX

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Effective 7:00 a.m. 11-1-82 Buckhorn Petroleum Co. has sold its interest in the subject well and lease, and relinquished operations thereof to:

MR. LLOYD N. DISHMAN
P. O. Box 1038
Fruita, CO 81521
Phone: 303/858-3724Managed by: A. M. (AI) Crews
CREWS ESCROW & PROPERTY MGMT
P. O. Box 177
Fruita, CO 81521
Phone: 303/858-9245

By copy of this notice, we are hereby advising Mr. Dishman of his responsibility to post the appropriate bond and to fulfill all obligations of Operator in accordance with the rules and regulations of the local, state, and federal governing bodies.

18. I hereby certify that the foregoing is true and correct

SIGNED

Mark E. Neams

TITLE Production Engineer

DATE December 2, 1982

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

THE FOLLOWING METERS WILL HAVE CALIBRATION / SETTLEMENT TESTS RUN ON THE DATES INDICATED. STARTING TIME WILL BE 0800 OR AS SPECIFIED BELOW AND AT THE OFFICE OF THE NORTHWEST PIPELINE GRAND JUNCTION DISTRICT YOU WILL BE NOTIFIED SHOULD ANY CHANGES OCCUR IN THIS SCHEDULE. IF YOU HAVE ANY QUESTIONS ABOUT THE SCHEDULE, CONTACT OR WRITE THE DISTRICT OFFICE.

METER CODE	WELL NAME	LDC	RUN	DAY	MO/YR	STARTING TIME
92124010	STATE 428 #1 14S. 22E. 5	06	03	13	12/85	1000
92125017	STATE 913 #1A 14S. 22E. 9	06	03	13	12/85	1100



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dianne R. Nielson, Ph.D., Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

September 11, 1984

Mr. Al Crews ^{P.O. Box 1034}
~~P.O. Box 177~~
Fruita, Colorado 81521

Dear Mr. Crews:

Re: State 428-1, Sec. 5, T16S, R22E, Grand County, Utah, Lease No. ML-27428. 43-019-30169

State 913-1-A, Sec. 9, T16S, R22E, Grand County, Utah, Lease No. ML-21913. 43-019-30193

The above referenced well locations were inspected on July 11, 1984 and were found to be inadequate for the following reasons:

State 428-1 is in violation of Rule C-7 Identification which requires a sign bearing the name of the operator, the lease name, and the location by quarter, section, township and range. The pit fence is in need of repair and strengthening as it was knocked down by cattle. The tank also needs to be sealed before and after each pickup.

The State 913-1-A well is also in violation of Rule C-7 Identification. This tank also lacks seals on the valves. Furthermore, if the discharge to the pit is unuseable for livestock the pit must be fenced to keep them out.

Your prompt attention to correct these matters will be greatly appreciated.

Respectfully,

William Moore
Oil and Gas Field Specialist

sb
Enclosures
96860-17



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

May 30, 1985

Lloyd N. Dishman
P.O. Box 1038
Fruita, Colorado 81521

Dear Mr. Dishman:

RE: Well No. 428-1, Sec.5, T.16S, R.22E, Grand County, Utah and 43-019-30169
Well No. 913-1A, Sec.9, T.16S, R.22E, Grand County, Utah 43-019-30193

This letter is a follow up to your conversation with William Moore of this Division on May 15, 1985, regarding the above referenced wells.

At that time, it was requested that well signs be placed on both sites, that the berms around the storage tanks be built up and that the valves on the tanks be properly sealed and secured. It was also brought to your attention at that time that both sites have their existing reserve pits which are currently being used for livestock in the summer. Because these reserve pits were associated with the drilling operation, it is necessary that if drilling has terminated, the pit must be rehabilitated.

Upon resolution of the above mentioned deficiencies, please submit a sundry notice stating what was done and when it was completed so that follow up inspections can be arranged. If there are any questions please contact William Moore of this office. Your prompt attention to these matters will be greatly appreciated.

Sincerely,


John R. Baza
Petroleum Engineer

WM:sb

cc: State Lands and Forestry
D.R. Nielson
R.J. Firth
9686T-88

State Of Utah
Natural Resources
Oil, Gas, & Mining

RECEIVED

JUN 21 1985

DIVISION OF OIL
GAS & MINING

Att. William Moore

Dear Sir,

RE: Well No. 428-1 Sec. 5 T 16 S R22 E Grand County, Utah
Well No. 913-1A Sec 9 T16S R22E Grand County, Utah

We request these pits be left open for stock ponds as in
previous conversations with you please advise as soon as possible,
Thank You.

Sincerely,

Jim Tomlinson

cc Lloyd N. Dishman

Lloyd N. Dishman

Jim Tomlinson
(Forster) (Loran)
for Willow Creek Ranch

J. C. THOMPSON
INDEPENDENT OIL OPERATOR
410 - 17TH STREET, SUITE 1305
DENVER, COLORADO 80202

RECEIVED
SEP 27 1989

DIVISION OF
OIL, GAS & MINING

September 25, 1989

Ms. Vicky Carney
State of Utah
Division of Oil, Gas, & Mining
355 W. North Temple
3 Triad Center; Suite 350
Salt Lake City, UT 84180

Dear Ms. Carney:

As per your request today, enclosed are production reports for the State 913-1A and 428 #1 wells for the following months:

August 1987
September 1987
December 1988
May 1989
June 1989
July 1989

Please add these two wells to our Monthly Production Report for Account No. N1240. Also enclosed are Designation of Operator forms for both leases executed by National Fuel Corporation (successor to Lloyd Dishman) and NICOR Exploration Company.

If you have any additional questions, please contact the undersigned.

Sincerely,

Brenda K. Fuechsel

Brenda K. Fuechsel

/bkf

Enclosures

RECEIVED
SEP 27 1989

DIVISION OF
OIL, GAS & MINING

DESIGNATION OF OPERATOR

The undersigned is, on the records of the Department of Natural Resources, Division of State Lands, holder of lease, ML-21913:

and hereby designates

J.C. Thompson
410-17th Street; #1305
Denver, CO 80202

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the Director of the Division of State Lands or his representative may serve written or oral instructions in securing compliance with the Rules and Regulations Governing the Issuance of Mineral Leases with respect to:

Township 16 South - Range 22 East, SLM
Section 9: All. 43-019-30193

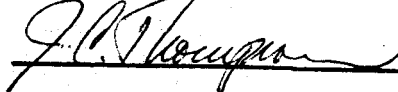
640 Acres

It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Rules and Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

In case of default on the part of the designated operator, the lessee will make full and prompt compliance with all regulations, lease terms, or orders of the Director, Division of State Lands or his representative.

The lessee agrees promptly to notify the Division of State Lands of any change in the designated operator.

NATIONAL FUEL CORPORATION



Date: 7-25-89

410-17th Street; #1305
Denver, CO 80202

DESIGNATION OF OPERATOR

The undersigned is, on the records of the Department of Natural Resources, Division of State Lands, holder of lease, ML-21913:

and hereby designates

J.C. Thompson
410-17th Street; #1305
Denver, CO 80202

as his operator and local agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the Director of the Division of State Lands or his representative may serve written or oral instructions in securing compliance with the Rules and Regulations Governing the Issuance of Mineral Leases with respect to:

Township 16 South -- Range 22 East, SLM
Section 9: All.

640 Acres


It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Rules and Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

In case of default on the part of the designated operator, the lessee will make full and prompt compliance with all regulations, lease terms, or orders of the Director, Division of State Lands or his representative.

The lessee agrees promptly to notify the Division of State Lands of any change in the designated operator.

NICOR EXPLORATION COMPANY

BY: 

Keith Swart, Attorney-In-Fact 

Date: May 15, 1989

1050-17th Street; #100
Denver, CO 80265



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF STATE LANDS AND FORESTRY

Norman H. Bangerter
Governor

Dee C. Hansen
Executive Director

Richard J. Mitchell
Division Director

Southeastern Area
89 East Center Street
Moab, Utah 84532-2444
801-259-6316

RECEIVED

JUN 15 1992

DIVISION OF
OIL GAS & MINING

June 10, 1992

J.C. Thompson
Attn: Brenda Fuechsel
6500 South Quebec
Suite 210
Englewood, CO 80111

*Sec 9, T16S, R 22E
43-019-30193*

RE: State 428-1 & State 913-1A Wells
Grand County, Utah

Dear Ms. Fuechsel:

I am in receipt of your letter of May 28, 1992. I would have no objection to leaving the reserve pits open on the above referenced wells, provided the pits are clean of all caustic or potentially hazardous materials and the banks of the pit are sloped in a manner to make them accessible to wildlife and livestock. As water is such a precious commodity in the area, I appreciate your considering leaving the pits as water ponds.

If you need anything further, please feel free to call.

Sincerely,

Brad Williams

BRAD WILLIAMS
RANGE CONSERVATIONIST

cc: Chris Kierst
Oil & Gas Specialist
3 Triad Center, Suite 350
Salt Lake City, UT 84180

Ed Bonner, DSL&F

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: see attached list
2. NAME OF OPERATOR: J.C. THOMPSON OPERATOR, LLC		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: 7979 E Tufts Ave Pkwy #815 CITY Denver STATE CO ZIP 80237		7. UNIT or CA AGREEMENT NAME:
4. LOCATION OF WELL FOOTAGES AT SURFACE:		8. WELL NAME and NUMBER: see attached list
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:		9. API NUMBER:
PHONE NUMBER: (303) 220-7772		10. FIELD AND POOL, OR WILDCAT:

COUNTY: Grand

STATE: UTAH

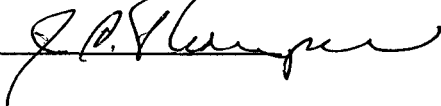
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input checked="" type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Effective March 17, 2005, J.C. Thompson Operator, LLC became the operator of all wells on the attached list, which were previously operated by J.C. Thompson.

previous operator: J.C. Thompson
7979 E Tufts Ave Pkwy #815 N1240
Denver CO 80237-2843

by: 

new operator: J.C. Thompson Operator, LLC
7979 E Tufts Ave Pkwy #815 N2805
Denver CO 80237-2843

State + Fee BOND # LPM 8756586
BLM Bond # LPM 4021517

NAME (PLEASE PRINT) J.C. Thompson TITLE Member and Manager
SIGNATURE  DATE 3/17/2005

(This space for State use only)

APPROVED 8/24/05

(5/2000)

Earlene Russell
Division of Oil, Gas and Mining
Earlene Russell, Engineering Technician

(See instructions on Reverse Side)

RECEIVED

MAY 25 2005

DIV. OF OIL, GAS & MINING

SCHEDULE OF PROPERTIES

J C Thompson Operator, LLC
(effective March 17, 2005)

<u>API No.</u>	<u>Lease No.</u>	<u>Well Name</u>	<u>Location (Grand County, Utah)</u>	
4301930169	ML-27428	State 428 #1	SWSE	5-T16S-R22E
4301930193	ML-21913	State 913 #1A	C SE	9-T16S-R22E
4301930706	ML-27406	Peterson Springs #1	NWSE	14-T17S-R21E
4301916206	UTU-05109	Horse Point Unit 1-X	NWNE	14-T16S-R23E
4301920154	UTU-020509	Horsepoint M-4	SENE	6-T17S-R24E
4301930013	ML-21613	Horsepoint M-6	NESE	32-T16S-R24E
4301930049	UTU-029600	Horsepoint M-7	SWNW	6-T17S-R24E
4301915671	UTU-02981	Moonridge 31-15	NWNE	15-T16S-R21E
4301915672	UTU-03008A	Segundo #2	SWSE	33-T16S-R21E
4301915673	UTU-04600	Segundo #23-4	NESW	4-T17S-R21E
4301930895	SL-071892	Westwater C-1	NENW	12-T17S-R23E
4301930891	SL-071892	Westwater D-1	SESE	11-T17S-R23E
4301930853	SL-071893	Westwater Unit #3	S2N2NW	13-T17S-R23E
4301930852	SL-071893	Westwater Unit #5	NESW	18-T17S-R24E
4301930892	SL-071892	Westwater B-1	NWSW	17-T17S-R24E
4301915657	SL-071892	Westwater E2	SWSE	7-T17S-R24E
4301915649	SL-071892	Castlegate 2	SWNW	18-T17S-R24E
4301915650	SL-071893	Westwater Castlegate 4	NENE	13-T17S-R23E
4301915652	SL-071892	Westwater Castlegate 6	SENW	18-T17S-R24E
4301915653	UTU-04011	Westwater Castlegate 7	NESE	7-T17S-R24E
4301915656	SL-071892	Castlegate D-2	NWNE	18-T17S-R24E
4301915654	SL-071891	Westwater C9-10	SWSE	10-T17S-R23E
4301930077	SL-071892	Westwater E5	NWNE	18-T17S-R24E
4301915658	SL-071892	Westwater E3	NENW	17-T17S-R24E
4301915662	UTU-04011	Westwater M3	NWNW	7-T17S-R24E

SCHEDULE OF PROPERTIES
J C Thompson Operator, LLC
Page 2

<u>API No.</u>	<u>Lease No.</u>	<u>Well Name</u>	<u>Location (Grand County, Utah)</u>	
4301915660	SL-071567	Westwater M1	SESW	1-T17S-R23E
4301915661	SL-071892	Westwater M2	NWSE	12-T17S-R23E
4301915647	UTU-026A	Bryson Canyon Govt #1	SWSW	8-T17S-R24E
4301930641	UTU-15889	Middle Canyon #4-30	SWSW	30-T16S-R24E
4301930925	UTU-30123	Middle Canyon #11-30	SENW	30-T16S -R24E

3. FILE

Designation of Agent/Operator

Merger

3/17/2005

TO: (New Operator):

N2805-J. C. Thompson Operator, LLC
7979 E Tufts Ave Pkwy, Suite 815
Denver, CO 80237-2843

Phone: 1-(303) 220-7772

Unit:

[illegible]

****due to name change on bond**

7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: 7/26/2005
8. **Federal and Indian Units:**
The BLM or BIA has approved the successor of unit operator for wells listed on: n/a
9. **Federal and Indian Communization Agreements ("CA"):**
The BLM or BIA has approved the operator for all wells listed within a CA on: n/a
10. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: n/a

DATA ENTRY:

1. Changes entered in the Oil and Gas Database on: 8/24/2005
2. Changes have been entered on the Monthly Operator Change Spread Sheet on: 8/24/2005
3. Bond information entered in RBDMS on: 8/24/2005
4. Fee/State wells attached to bond in RBDMS on: 8/24/2005
5. Injection Projects to new operator in RBDMS on: n/a
6. Receipt of Acceptance of Drilling Procedures for APD/New on: n/a

FEDERAL WELL(S) BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: U0068

INDIAN WELL(S) BOND VERIFICATION:

1. Indian well(s) covered by Bond Number: n/a

FEE & STATE WELL(S) BOND VERIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number LPM8756586**
2. The **FORMER** operator has requested a release of liability from their bond on: n/a
The Division sent response by letter on: n/a

LEASE INTEREST OWNER NOTIFICATION:

3. (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: n/a

COMMENTS:

** Bond rider deleted J. C. Thompson and added J. C. Thompson Operator, LLC

Division of Oil, Gas and Mining
OPERATOR CHANGE WORKSHEET (for state use only)

ROUTING

CDW

X - Change of Operator (Well Sold)

Operator Name Change/Merger

The operator of the well(s) listed below has changed, effective:

6/1/2012

FROM: (Old Operator):

N2805- J. C. Thompson
 8400 E Prentice Ave, Suite 735
 Greenwiid Village, CO 80111

Phone: 1 (303) 220-7772

TO: (New Operator):

N8060- National Fuel Corporation
 8400 E Prentice Ave, Suite 735
 Greenwood Villiage, CO 80111

Phone: 1 (303) 220-7772

CA No.

Unit:

N/A

WELL NAME	SEC	TWN	RNG	API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
See Attached List								

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

- (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 8/14/2012
- (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 8/14/2012
- The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 8/14/2012
- a. Is the new operator registered in the State of Utah: Business Number: 1260477-0143
- 5a. (R649-9-2)Waste Management Plan has been received on: Yes
- 5b. Inspections of LA PA state/fee well sites complete on: N/A
- 5c. Reports current for Production/Disposition & Sundries on: 8/14/2012
- Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM Not Yet BIA N/A
- Federal and Indian Units:**
The BLM or BIA has approved the successor of unit operator for wells listed on: Not Yet
- Federal and Indian Communization Agreements ("CA"):**
The BLM or BIA has approved the operator for all wells listed within a CA on: N/A
- Underground Injection Control ("UIC")** Division has approved UIC Form 5 Transfer of Authority to **Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: N/A

DATA ENTRY:

- Changes entered in the **Oil and Gas Database** on: 8/31/2012
- Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 8/31/2012
- Bond information entered in RBDMS on: 8/31/2012
- Fee/State wells attached to bond in RBDMS on: 8/31/2012
- Injection Projects to new operator in RBDMS on: N/A
- Receipt of Acceptance of Drilling Procedures for APD/New on: N/A

BOND VERIFICATION:

- Federal well(s) covered by Bond Number: LPM4021517
- Indian well(s) covered by Bond Number: N/A
- 3a. (R649-3-1) The **NEW** operator of any state/fee well(s) listed covered by Bond Number LPM 8756586
- 3b. The **FORMER** operator has requested a release of liability from their bond on: N/A

LEASE INTEREST OWNER NOTIFICATION:

- (R649-2-10) The **NEW** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: N/A

COMMENTS:

J C Thompson Operator, LLC (N2805) to National Fuel Corporation (N8060)
Effective 8/1/2012

Well Name	Sec	TWP	RNG	API Number	Entity	Lease	Well Type	Well Status
FED 18 CASTLEGATE-2	18	170S	240E	4301915649	355	Federal	GW	P
WESTWATER FED C9-10	10	170S	230E	4301915654	304	Federal	GW	P
WESTWATER U M-1	01	170S	230E	4301915660	308	Federal	GW	P
SEGUNDO 2	33	160S	210E	4301915672	320	Federal	GW	P
SEGUNDO 23-4	04	170S	210E	4301915673	325	Federal	GW	S
HORSE POINT M-7	06	170S	240E	4301930049	305	Federal	GW	S
STATE 913-1A	09	160S	220E	4301930193	6035	State	GW	S
WESTWATER FED B-1	17	170S	240E	4301930892	306	Federal	GW	P
FEDERAL C-1	12	170S	230E	4301930895	270	Federal	GW	S

PHONE 303-220-7772
FAX 303-220-7772

J. C. THOMPSON OPERATOR, LLC
8400 E. Prentice Ave. – Suite 735
Greenwood Village, Colorado 80111

August 9, 2012

RECEIVED

AUG 14 2012

DIV. OF OIL, GAS & MINING

State of Utah
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Re: Operator Change
J.C. Thompson Operator, LLC to National Fuel Corporation

J.C. Thompson Operator, LLC, the operator of certain wells located in Grand County, Utah, requests that the designated operator of all wells be changed to National Fuel Corporation effective June 1, 2012. Accordingly, enclosed for approval is the Sundry Notice (submitted in triplicate) regarding the leases.

National Fuel Corporation is principal to its Statewide Utah Bond #LPM4021517 and the bond has been previously provided to the Salt Lake City office. The Resignation of Unit Operator and Designation of Successor Operator will also be provided accordingly.

Please advise if any additional information or documentation is required.

Sincerely,



Lynne Jansons
Land and Contract Management
National Fuel Corporation
303.996.6776 (office)
303.220.7773 (fax)
ljansons@national-fuel.com

enclosures

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL ☐ GAS WELL ☒ OTHER _____

2. NAME OF OPERATOR:
NATIONAL FUEL CORPORATION 178060

3. ADDRESS OF OPERATOR:
8400 E Prentice Ave., Suite 7 Greenwood Village CO 80111

PHONE NUMBER:
(303) 220-7772

4. LOCATION OF WELL

FOOTAGES AT SURFACE:

COUNTY: Grand

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input checked="" type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Effective June 1, 2012, National Fuel Corporation succeeded J.C. Thompson Operator, LLC as operator of all wells on the attached list and is responsible under the terms and conditions of the lease for the operations conducted upon the leased lands. National Fuel Corporation is principal to the Statewide Utah Bond No. LPM4021517.

State: LPM 8756586

NAME (PLEASE PRINT) Diane Thompson

TITLE President and Chief Operating Officer

SIGNATURE *Diane Thompson*

DATE *July 30, 2012* July 30, 2012

(This space for State use only)

APPROVED

AUG 31 2012

(5/2000)

DIV. OIL GAS & MINING

Rachael Medina
Engineer Tech

(See Instructions on Reverse Side)

RECEIVED

AUG 14 2012

DIV. OF OIL, GAS & MINING